



READY RECKONER

Oil Industry Information at a Glance
Petroleum Planning & Analysis Cell

(Ministry of Petroleum & Natural Gas, Government of India)



November 2019

Suggestions & Feedback

Readers are invited to send their suggestions & feedback for improvement of the Ready Reckoner to:

Anju Jai Misra, Additional Director (D&ES)

Petroleum Planning & Analysis Cell (PPAC)

(Ministry of Petroleum & Natural Gas, Govt. of India)

SCOPE Complex, 2nd Floor, Core 8,

Lodhi Road, New Delhi-110003

Email: anjum@ppac.gov.in

Acknowledgments

The cooperation of the following persons from PPAC is acknowledged in preparation of the Reckoner:

Sh. Niranjana Singh Budiyal & Ganesh Nadar (D&ES Division), Sh. Lokesh Mehta (Gas Division), Sh. Ashish Mittal (Finance Division), Sh. Daleep Kanojia, Ms. Nalini Sehgal & Sh. Vivek Pant (Supply Division), Sh. Sandeep Kalra (Marketing Division) & Sh. Deepak Trivedi (Admin Division).

PPAC also thanks various organizations from the Oil & Gas sector for providing useful inputs for inclusion in the Ready Reckoner.

Disclaimer

While every care is taken to check the accuracy of data & information included in the Ready Reckoner, PPAC would not be held responsible for any loss, damage etc. due to action taken by any one based on information contained in this publication.

Preface


India is the third largest energy consumer in the world as well as the third largest oil consumer in the world. As per the World Energy Outlook, 2019, India is the largest source of energy demand growth in the World. In the Indian energy landscape, the Oil & Gas sector is a vital catalyst to the economic growth of the country.

Petroleum Planning and Analysis Cell (PPAC), an attached office of the Ministry of Petroleum and Natural Gas (MOP &NG), Government of India collects data on the Oil and Gas sector and publishes the aggregated data on an industry basis on its website www.ppac.gov.in. The data is obtained from the Public Sector companies, Government agencies as well as the Private companies. Given the ever-increasing demand for energy and transition of energy demand to renewables and Biofuels, Policy makers and Analysts need to be well informed about the current trends in the Oil & Gas industry. Consistent and accurate Oil and Gas statistics is a crucial input for many stakeholders that include the Government, academia, industry and research agencies.

Publication entitled 'Ready Reckoner' is brought out twice a year and endeavour is made to deliver accurate and timely information to all stakeholders. This November 2019 edition of PPAC's biannual Ready Reckoner contains the latest data/information for the first half of the financial year 2019-20 and historical time series for stakeholders to access the same on a single platform. The Ready Reckoner is also published on PPAC's website (<http://ppac.gov.in>) and on our mobile app - PPAC which is available on Google Play Store and Apple Store.

The publication of Ready Reckoner is a concerted effort by all divisions of PPAC and I would like to place on record my sincere appreciation of the diligent efforts of the officers and staff who have contributed to bring out the current edition. Cooperation of the oil and gas industry and various organizations is acknowledged for their timely inputs.

PPAC welcomes feedback and suggestions for broadening the coverage and contents of the data being disseminated through this publication.



Praveen M. Khanooja

Director General

Petroleum Planning & Analysis Cell (PPAC)
(Ministry of Petroleum & Natural Gas)

New Delhi
Nov 26, 2019



Petroleum Planning & Analysis Cell

(Ministry of Petroleum & Natural Gas, Government of India)



VISION & MISSION

Vision

To be the most authentic official source for data and policy analysis on the hydrocarbon sector in the country.

Mission

1. To strengthen the existing data system in PPAC by adopting the latest techniques and best practices.
2. To render effective assistance to the Ministry of Petroleum & Natural Gas in the discharge of its responsibilities, particularly pricing of petroleum products and administration of subsidy schemes.
3. To monitor and analyze developments in the domestic oil and gas sector.
4. To undertake analysis of domestic and international energy markets.
5. To develop a cooperative framework for exchange of information and conduct of studies with other countries and international organizations in the energy sector.

Objectives

1. To ensure effective administration of the subsidy schemes notified by the Government.
2. To monitor and analyze trends in prices of crude oil, petroleum products and natural gas and their impact on the oil companies and consumers, and prepare appropriate technical inputs for policy making.
3. To monitor developments in the domestic market and analyze options for policy changes in pricing, transportation and distribution of petroleum products.
4. To collect, compile and disseminate data on the domestic oil and gas sector in a continuous manner and maintain the data bank.
5. To ensure quality of data in terms of prescribed parameters such as accuracy, completeness and timeliness.
6. To prepare periodic reports on various aspects of oil and gas sector.

CONTENTS

CHAPTER NO.	TITLE	PAGE NO.
1	GENERAL	
	Selected indicators of the Indian economy	2
	Global energy consumption	3
2	EXPLORATION & CRUDE OIL PRODUCTION	
	World top 30 crude oil proved reserves countries	5
	World top 30 crude oil producing countries	6
	World top 30 crude oil consuming countries	7
	World top 30 crude oil refining capacity countries	8
	Indigenous crude oil and condensate production	9
	Self sufficiency in petroleum products	9
	Status of blocks under NELP	10
	Status of blocks under OALP round of HELP and DSF rounds	10
	Domestic oil & gas production vis a vis overseas production	11
	Coal Bed Methane (CBM) gas development in India	11
	Status of shale gas and oil development in India	11
3	NATURAL GAS	
	World top 30 natural gas reserves countries	13
	World top 30 natural gas producing countries	14
	World top 30 natural gas consuming countries	15
	Natural gas at a glance	16
	Natural gas production	16
	PNG data	17
	CNG sales in India	19
	CNG stations and vehicles	20
	LNG terminals (Operational)	20
	Import of Liquefied Natural Gas (LNG)	21
	Domestic natural gas price and gas price ceiling	21
4	REFINING & PRODUCTION	
	Map of refineries in India	23
	Simplified block flow diagram of a typical refinery	24
	Refineries: Installed capacity and crude oil processing	25
	High Sulphur (HS) & Low Sulphur (LS) crude oil processing	25
	Imported crude & indigenous crude oil processing	25
	Production of petroleum products	26
	Production of petroleum products: All sources	27
	Production vis a vis consumption of petroleum products	27

CHAPTER NO.	TITLE	PAGE NO.
	Gross Refining Margins (GRM) of refineries	28
	GRM of North East refineries excluding excise duty benefit	28
	Distillate yield of PSU refineries	29
	Fuel and Loss	30
	Specific energy consumption (MBN number) of PSU refineries	30
	Import / export of crude oil and petroleum products	31
	Exchange rates of Indian rupee (₹)	32
5	MAJOR PIPELINES IN INDIA	
	Map of pipeline network in India	34
	Gas pipeline network	35
	Existing major crude oil pipelines in India	36
	Existing major POL pipelines in India	37
6	SALES	
	Consumption of petroleum products	39
	Chart : All India consumption of petroleum products	39
	Consumption growth of petroleum products	40
	End-use analysis of HSD sales & diesel consumption by sectors	40
	State-wise sales of selected petroleum products	41
	PDS SKO allocation	42
	Oil industry retail outlets & SKO/LDO agencies	43
	Chart: Category wise SKO/LDO agencies	44
	Industry marketing infrastructure	44
	Chart: All India number of retail outlets in PSU & private category	45
	Chart: Category wise retail outlets	45
	Break-up of POL consumption data (PSU and Private)	46
	Ethanol blending programme	47
	Chart : POL consumption by product	48
	Chart : Distribution of total domestic POL sales in India	48
7	LPG	
	LPG marketing at a glance	50
	LPG coverage (estimated)	51
	BPL households covered under PMUY scheme	52
	LPG domestic customers (14.2 kg/5 kg) enrolment by PSU OMCs	53
	Number of LPG distributors (New scheme)	54
8	PRICES AND TAXES	
	FOB price of Indian basket of crude oil	56
	Chart: Trend in spreads of petroleum products vs Indian basket of crude oil	57
	Chart: Trend in spreads of international benchmark crude oils	57
	Price build-up of PDS kerosene at Mumbai	58

CHAPTER NO.	TITLE	PAGE NO.
	Price build-up of domestic LPG at Delhi	58
	Price build-up of petrol at Delhi	58
	Price build-up of diesel at Delhi	58
	Break up of central excise duty on petrol & diesel	59
	Share of taxes in Retail Selling Price of PDS kerosene at Mumbai	59
	Share of taxes in Retail Selling Price of domestic LPG at Delhi	59
	Weightage of crude oil, natural gas and petroleum products in Wholesale Price Index (WPI)	60
	Dealers' commission on petrol & diesel	61
	Wholesale dealers' commission on PDS kerosene	61
	Distributors' commission on domestic LPG	62
	Retail Selling Price of major petroleum products in India & neighbouring countries	63
	Retail Selling Price & percentage of taxes in RSP in developed countries vis-a-vis India:	
	Price and tax in Indian rupees (₹)/litre	63
	Price and tax in US dollars (\$)/litre	
	Retail Selling Price of petroleum products at State capitals/UTs	64
	Retail Selling Price of PDS kerosene at major cities	64
	Customs, excise duty and GST rates on petroleum products	65
	Actual rate of sales tax/VAT/GST and other taxes levied by State/UT Governments on major petroleum products	66
	Contribution of petroleum sector to exchequer	67
	State/UT wise collection of sales tax/VAT by petroleum sector	68
	State/UT wise collection of SGST/UTGST by petroleum sector	69
	Profit After Tax (PAT) of oil companies	70
	Financial details of oil companies	71
	Total subsidy/under-recovery on petroleum products & natural gas	72
	Quantity and value of Indian crude oil imports	72
9	MISCELLANEOUS	
	Average international calorific values of different fuels	74
	Weight to volume conversion	74
	Volume conversion	74
	Contents of LPG & Natural Gas	74
	Natural Gas conversions	75
	Major end use of petroleum products	75
	Information about key officers of MoP&NG and PPAC	76



Chapter 1

General



Table 1.1 : Selected indicators of the Indian economy

General

Sl. no.	Particulars	Source	Unit/ Base	2015-16	2016-17	2017-18	2018-19	Apr-Sep 2018	Apr-Sep 2019 (P)
1	Population (Census 2011)	Census of India	Billion	1.2	-	-	-	-	-
2	GDP at constant (2011-12 Prices)	MoC&I	Growth %	8.0 3 rd RE	8.2 2 nd RE	7.2 1 st RE	6.8 PE	8.0 PE(Q1)	5.0 E(Q1)
3	Agricultural production (foodgrains)	MoA	Million tonne	251.5	275.1	285.0	285.0 4 th AE	141.6 1 st AE (Kharif)	140.6 1 st AE (Kharif)
			Growth %	-0.2	9.4	3.6	0.0	0.6	-0.7
4	Index of Industrial Production (Base: 2011-12)	MoSPI	Growth %	3.3	4.6	4.4	3.8	5.2	1.3 (QE)
5	Imports	MoC&I	\$ Billion	381.0	384.4	465.6	514.1	261.6	243.3
6	Exports	MoC&I	\$ Billion	262.3	275.9	303.5	330.1	163.5	159.6
7	Trade balance	MoC&I	\$ Billion	-118.7	-108.5	-162.1	-184.0	-98.2	-83.7
8	Wholesale Price Index (all commodities) (average)	MoC&I	2011-12 = 100	109.7	111.6	114.9	119.8	119.3	121.4
9	All India Consumer Price Index (average):								
	i) Industrial workers	Labour Bureau, Govt. of India	2001=100	265.0	275.9	284.4	299.9	295.2	317.2
	ii) Agricultural labourers		1986-87=100	834.9	869.8	888.9	907.3	898.7	953.5
	iii) Rural labourers		1986-87=100	839.4	875.0	895.1	915.1	906.5	960.7
10	Foreign exchange reserves- Total ^a	RBI	\$ Billion	355.6	370.0	424.4	411.9	400.5	433.6
11	Outstanding external liabilities (as of end of financial year)	MOF	₹ Crore	2,10,262	2,28,259	2,50,090	2,58,959 (RE)	-	2,68,269 2019-20 (BE)
12	Outstanding internal debt (as of end of financial year)	MOF	₹ Crore	66,91,409	72,07,503	79,84,787	87,97,766 (RE)	-	95,99,652 2019-20 (BE)
13	Centrally Sponsored Schemes & other transfers	MOF	₹ Crore	3,41,630	3,91,496	4,58,259	5,07,805 (RE)	-	5,97,130 2019-20 (BE)
14	Gross fiscal deficit	MOF	%	-3.9	-3.5	-3.5	-3.4 (RE)	-	-3.4 2019-20 (BE)

Note:^a2015-16-as on March 25, 2016; 2016-17-as on March 31, 2017; 2017-18-as on March 30, 2018; 2018-19-as on March 29, 2019; Apr-Sep 2018-as on September 28, 2018; Apr-Sep 2019-as on September 27, 2019 (P): Provisional; MoA: Ministry of Agriculture; MoF: Ministry of Finance; MoC&I: Ministry of Commerce & Industry; MoSPI: Ministry of Statistics and Programme Implementation; RBI: Reserve Bank of India; E: Estimates; PE: Provisional Estimates; QE: Quick Estimates; AE: Advance Estimates; RE: Revised Estimates; BE: Budgeted Estimates

Petroleum

Sl. no.	Particulars	Source	Unit/ Base	2015-16	2016-17	2017-18	2018-19	Apr-Sep 2018	Apr-Sep 2019 (P)
1	Crude oil production in India	ONGC/OIL/DGH	MMT	36.9	36.0	35.7	34.2	17.4	16.4
2	Consumption of petroleum products in India	OMCs/PPAC	MMT	184.7	194.6	206.2	213.2	104.2	105.7
3	Petroleum products production in India	Oil Cos	MMT	231.9	243.5	254.3	262.4	130.8	128.1
4	Imports & exports								
	Crude oil imports	Oil Cos	\$ Billion	64.0	70.2	87.8	111.9	58.6	52.5
	Petroleum products imports	Oil Cos & DGCIS	\$ Billion	10.0	10.6	13.6	16.3	8.3	8.6
	Total petroleum imports (crude oil + petroleum products)	Oil Cos & DGCIS	\$ Billion	73.9	80.8	101.4	128.3	66.9	61.1
	Petroleum products exports	Oil Cos	\$ Billion	27.1	29.0	34.9	38.2	20.4	18.2
5	Gross petroleum imports as percentage of India's gross imports in value terms	MOC&I/PPAC	%	19.4	21.0	21.8	24.9	25.6	25.1
6	Gross petroleum exports as percentage of India's gross exports in value terms	MOC&I/PPAC	%	10.3	10.5	11.5	11.6	12.5	11.4
7	Import dependency (based on consumption)	PPAC	%	80.6	81.7	82.9	83.8	83.3	84.5

Note : (P): Provisional, OMCs: Oil Marketing Companies, PPAC: Petroleum Planning & Analysis Cell

Natural Gas

Sl. no.	Particulars	Source	Unit/ Base	2015-16	2016-17	2017-18	2018-19	Apr-Sep 2018	Apr-Sep 2019 (P)
1	Gross Production	ONGC/OIL/DGH	MMSCM	32,249	31,897	32,649	32,875	16,254	16,005
2	Net Production (net of flare and loss)	ONGC/OIL/DGH	MMSCM	31,129	30,848	31,731	32,058	15,863	15,539
3	LNG Import	LNG importing Cos, DGCIS	MMSCM	21,388	24,849	27,439	28,740	15,078	16,276
4	Total Consumption including internal use (Net Production+ LNG import)		MMSCM	52,517	55,697	59,170	60,798	30,941	31,815
5	Import dependency (based on consumption)	PPAC	%	40.7	44.6	46.4	47.3	48.7	51.2

Note : MMSCM : Million Standard Cubic Meter

Table 1.2 : Global energy consumption, 2018

Sl. no.	Country	Oil	Natural Gas	Coal	Nuclear Energy	Hydro Electricity	Renewables	Total Energy
		(Mtoe)	(Mtoe)	(Mtoe)	(Mtoe)	(Mtoe)	(Mtoe)	(Mtoe)
	World	4662.1	3309.4	3772.1	611.3	948.8	561.3	13864.9
	% share	33.6	23.9	27.2	4.4	6.8	4.0	
	Per capita consumption (Toe)	0.62	0.44	0.50	0.08	0.13	0.07	1.84
1	China	641.2	243.3	1906.7	66.6	272.1	143.5	3273.5
	% share	19.6	7.4	58.2	2.0	8.3	4.4	
	Per capita consumption (Toe)	0.46	0.18	1.38	0.05	0.20	0.10	2.36
2	USA	919.7	702.6	317.0	192.2	65.3	103.8	2300.6
	% share	40.0	30.5	13.8	8.4	2.8	4.5	
	Per capita consumption (Toe)	2.83	2.16	0.97	0.59	0.20	0.32	7.08
3	India	239.1	49.9	452.2	8.8	31.6	27.5	809.2
	% share	29.5	6.2	55.9	1.1	3.9	3.4	
	Per capita consumption (Toe)	0.18	0.04	0.34	0.01	0.02	0.02	0.60
4	Russian Federation	152.3	390.8	88.0	46.3	43.0	0.3	720.7
	% share	21.1	54.2	12.2	6.4	6.0	0.04	
	Per capita consumption (Toe)	1.05	2.70	0.61	0.32	0.30	0.002	4.99
5	Japan	182.4	99.5	117.5	11.1	18.3	25.4	454.1
	% share	40.2	21.9	25.9	2.4	4.0	5.6	
	Per capita consumption (Toe)	1.44	0.78	0.93	0.09	0.14	0.20	3.58
6	Canada	110.0	99.5	14.4	22.6	87.6	10.3	344.4
	% share	31.9	28.9	4.2	6.6	25.4	3.0	
	Per capita consumption (Toe)	3.00	2.71	0.39	0.62	2.39	0.28	9.38
7	Germany	113.2	75.9	66.4	17.2	3.8	47.3	323.9
	% share	34.9	23.4	20.5	5.3	1.2	14.6	
	Per capita consumption (Toe)	1.37	0.92	0.80	0.21	0.05	0.57	3.92
8	South Korea	128.9	48.1	88.2	30.2	0.7	5.0	301.0
	% share	42.8	16.0	29.3	10.0	0.2	1.6	
	Per capita consumption (Toe)	2.50	0.93	1.71	0.59	0.01	0.10	5.85
9	Brazil	135.9	30.9	15.9	3.5	87.7	23.6	297.6
	% share	45.7	10.4	5.3	1.2	29.5	7.9	
	Per capita consumption (Toe)	0.65	0.15	0.08	0.02	0.42	0.11	1.42
10	Iran	86.2	193.9	1.5	1.6	2.4	0.1	285.7
	% share	30.2	67.9	0.5	0.6	0.9	0.03	
	Per capita consumption (Toe)	1.06	2.39	0.02	0.02	0.03	0.001	3.52
11	Saudi Arabia	162.6	96.4	0.1	-	-	0.04	259.2
	% share	62.8	37.2	0.04	-	-	0.01	
	Per capita consumption (Toe)	4.94	2.93	0.003	-	-	0.001	7.87
12	France	78.9	36.7	8.4	93.5	14.5	10.6	242.6
	% share	32.5	15.1	3.5	38.5	6.0	4.4	
	Per capita consumption (Toe)	1.18	0.55	0.12	1.39	0.22	0.16	3.62
13	United Kingdom	77.0	67.8	7.6	14.7	1.2	23.9	192.3
	% share	40.1	35.3	3.9	7.7	0.6	12.4	
	Per capita consumption (Toe)	1.17	1.03	0.11	0.22	0.02	0.36	2.91
14	Mexico	82.8	77.0	11.9	3.1	7.3	4.8	186.9
	% share	44.3	41.2	6.4	1.6	3.9	2.6	
	Per capita consumption (Toe)	0.64	0.60	0.09	0.02	0.06	0.04	1.45
15	Indonesia	83.4	33.5	61.6	-	3.7	3.3	185.5
	% share	45.0	18.1	33.2	-	2.0	1.8	
	Per capita consumption (Toe)	0.32	0.13	0.23	-	0.01	0.01	0.70

Source: BP Statistical Review of World Energy, June 2019

Note: For calculation of per capita consumption population figures have been taken from World Bank International database for 2017.

Mtoe: Million tonnes oil equivalent, Toe: Tonnes of oil equivalent



Chapter 2

Exploration & Crude Oil Production



Table 2.1 : World top 30 crude oil proved reserves countries

Sl. no.	Country	At end 2018		
		Thousand million tonnes	Thousand million barrels	Reserves /Production ratio
1	Venezuela	48.0	303.3	*
2	Saudi Arabia	40.9	297.7	66.4
3	Canada	27.1	167.8	88.3
4	Iran	21.4	155.6	90.4
5	Iraq	19.9	147.2	87.4
6	Russian Federation	14.6	106.2	25.4
7	Kuwait	14.0	101.5	91.2
8	United Arab Emirates	13.0	97.8	68.0
9	US	7.3	61.2	11.0
10	Libya	6.3	48.4	131.3
11	Nigeria	5.1	37.5	50.0
12	Kazakhstan	3.9	30.0	42.7
13	China	3.5	25.9	18.7
14	Qatar	2.6	25.2	36.8
15	Brazil	2.0	13.4	13.7
16	Algeria	1.5	12.2	22.1
17	Angola	1.1	8.4	15.0
18	Norway	1.1	8.6	12.8
19	Mexico	1.1	7.7	10.2
20	Azerbaijan	1.0	7.0	24.1
21	Oman	0.7	5.4	15.0
22	Vietnam	0.6	4.4	43.9
23	India	0.6	4.5	14.1
24	South Sudan	0.5	3.5	73.4
25	Australia	0.4	4.0	30.8
26	Egypt	0.4	3.3	13.6
27	Indonesia	0.4	3.2	10.7
28	Ecuador	0.4	2.8	14.8
29	Malaysia	0.4	3.0	12.1
30	Yemen	0.4	3.0	121.4
	Subtotal	240.1	1699.8	
	Others	4.1	30.0	
	Total World	244.1	1729.7	50.0
	of which: OECD	37.6	254.0	26.4
	Non-OECD	206.6	1475.8	59.1
	OPEC	174.8	1242.2	86.5
	Non-OPEC	69.4	487.5	24.1
	European Union	0.6	4.8	8.6
	Canadian oil sands: Total	26.4	162.3	
	of which: Under active development	3.4	20.9	
	Venezuela: Orinoco Belt	41.9	261.4	

Source: BP Statistical Review of World Energy, June 2019 which includes data from ICIS.

* More than 500 years

Note: Total proved reserves of oil - Generally taken to be those quantities that geological and engineering information indicates with reasonable certainty can be recovered in the future from known reservoirs under existing economic and operating conditions. The data series for total proved oil reserves does not necessarily meet the definitions, guidelines and practices used for determining proved reserves at company level, for instance as published by the US Securities and Exchange Commission, nor does it necessarily represent BP's view of proved reserves by country.

Reserves-to-production (R/P) ratio - If the reserves remaining at the end of any year are divided by the production in that year, the result is the length of time that those remaining reserves would last if production were to continue at that rate.

Reserves include gas condensate and natural gas liquids (NGLs) as well as crude oil.

Table 2.2 : World top 30 crude oil producing countries, 2018

Sl.no.	Country	Production*	
		Million tonnes	Million barrels daily
1	US	669.4	15.3
2	Saudi Arabia	578.3	12.3
3	Russian Federation	563.3	11.4
4	Canada	255.5	5.2
5	Iraq	226.1	4.6
6	Iran	220.4	4.7
7	China	189.1	3.8
8	United Arab Emirates	177.7	3.9
9	Kuwait	146.8	3.0
10	Brazil	140.3	2.7
11	Mexico	102.3	2.1
12	Nigeria	98.4	2.1
13	Kazakhstan	91.2	1.9
14	Norway	83.1	1.8
15	Qatar	78.5	1.9
16	Venezuela	77.3	1.5
17	Angola	74.6	1.5
18	Algeria	65.3	1.5
19	United Kingdom	50.8	1.1
20	Oman	47.8	1.0
21	Libya	47.5	1.0
22	Colombia	45.6	0.9
23	India	39.5	0.9
24	Indonesia	39.5	0.8
25	Azerbaijan	39.2	0.8
26	Egypt	32.7	0.7
27	Malaysia	31.5	0.7
28	Ecuador	27.7	0.5
29	Argentina	27.6	0.6
30	Thailand	17.3	0.5
	Sub total	4284.6	90.7
	Others	189.8	4.0
	Total World	4474.3	94.7
	of which: OECD	1198.6	26.3
	Non-OECD	3275.8	68.4
	OPEC	1854.3	39.3
	Non-OPEC	2620.1	55.4
	European Union	72.7	1.5

Source: BP Statistical Review of World Energy June 2019.

Note: * Includes crude oil, shale oil, oil sands, condensates (both lease condensate and gas plant condensate) and NGLs (natural gas liquids - ethane, LPG and naphtha separated from the production of natural gas).

Excludes liquid fuels from other sources such as biomass and derivatives of coal and natural gas.

Table 2.3 : World top 30 crude oil consuming countries, 2018

Sl. no.	Country	Consumption *	
		Million tonnes	Million barrels daily
1	US	892.8	20.5
2	China	628.0	13.5
3	India	236.6	5.2
4	Japan	175.5	3.9
5	Saudi Arabia	156.1	3.7
6	Russian Federation	146.3	3.2
7	Brazil	141.3	3.1
8	South Korea	122.3	2.8
9	Germany	109.2	2.3
10	Canada	105.2	2.4
11	Iran	82.1	1.9
12	Indonesia	80.1	1.8
13	Mexico	78.8	1.8
14	France	76.4	1.6
15	Singapore	75.2	1.4
16	United Kingdom	74.2	1.6
17	Spain	65.7	1.3
18	Thailand	63.1	1.5
19	Italy	59.0	1.3
20	Australia	51.1	1.1
21	Turkey	48.2	1.0
22	Taiwan	48.1	1.1
23	United Arab Emirates	43.3	1.0
24	Netherlands	39.8	0.9
25	Iraq	38.0	0.8
26	Egypt	35.4	0.8
27	Malaysia	34.8	0.8
28	Belgium	33.1	0.7
29	Poland	31.7	0.7
30	Argentina	29.8	0.6
	Sub total	3801.2	84.2
	Others	728.1	15.6
	Total World	4529.3	99.8
	of which: OECD	2133.2	47.5
	Non-OECD	2396.1	52.4
	European Union	629.0	13.3

Source: BP Statistical Review of World Energy, June 2019

* Inland demand plus international aviation and marine bunkers and refinery fuel and loss. Consumption of biogasoline (such as ethanol), biodiesel and derivatives of coal and natural gas are also included.

Note: Differences between these world consumption figures and world production statistics are accounted for by stock changes, consumption of non-petroleum additives and substitute fuels, and unavoidable disparities in the definition, measurement or conversion of oil supply and demand data.

Table 2.4 : World top 30 crude oil refining capacity* countries

(Thousand barrels daily)					
Sl.no.	Country	2008	2018	Addition	% Change
1	US	17672	18762	1090	6.2
2	China	10360	15655	5295	51.1
3	Russian Federation	5387	6596	1209	22.4
4	India	2992	4972	1980	66.2
5	South Korea	2712	3346	634	23.4
6	Japan	4650	3343	-1307	-28.1
7	Saudi Arabia	2102	2835	733	34.9
8	Brazil	1977	2285	309	15.6
9	Iran	1805	2225	420	23.3
10	Germany	2366	2085	-282	-11.9
11	Canada	1951	2025	74	3.8
12	Italy	2396	1900	-496	-20.7
13	Spain	1362	1564	203	14.9
14	Mexico	1463	1546	83	5.6
15	Singapore	1427	1514	87	6.1
16	Venezuela	1303	1303	0	0.0
17	Netherlands	1280	1294	14	1.1
18	France	1971	1245	-726	-36.8
19	Thailand	1165	1235	70	6.0
20	United Arab Emirates	682	1229	547	80.2
21	United Kingdom	1827	1227	-600	-32.9
22	Indonesia	1094	1116	22	2.0
23	Taiwan	1197	1083	-114	-9.5
24	Iraq	738	859	121	16.4
25	Turkey	613	818	205	33.4
26	Egypt	810	795	-15	-1.9
27	Belgium	786	776	-10	-1.3
28	Kuwait	936	736	-200	-21.4
29	Algeria	444	657	213	47.8
30	Malaysia	568	625	57	10.0
	Sub total	76037	85650	9614	13
	Others	14676	14399	-278	-1.9
	Total World	90713	100049	9336	10
	of which: OECD	45743	44553	-1190	-2.6
	Non-OECD	44970	55496	10525	23.4
	European Union	15818	14017	-1800	-11.4

Source: BP Statistical Review of World Energy, June 2019 which includes data from ICIS.

Note: * Atmospheric distillation capacity at year end on a calendar-day basis.

Table 2.5 : Indigenous crude oil and condensate production

(Million metric tonne)						
Particulars	2015-16	2016-17	2017-18	2018-19	Apr-Sep 2018	Apr-Sep 2019 (P)
PSU companies						
ONGC	21.1	20.9	20.8	19.6	9.9	9.5
OIL	3.2	3.3	3.4	3.3	1.7	1.6
PSU total	24.3	24.1	24.2	22.9	11.6	11.1
PSU total (crore barrels)	17.8	17.7	17.7	16.7	8.5	8.2
PSC total	11.2	10.4	9.9	9.6	4.9	4.4
PSC total (crore barrels)	8.2	7.6	7.2	7.1	3.6	3.2
Total crude oil	35.5	34.5	34.0	32.5	16.6	15.5
Condensate	1.4	1.5	1.6	1.7	0.9	0.8
Total (crude oil + condensate)	36.9	36.0	35.7	34.2	17.4	16.4
Total (crude oil + condensate) (crore barrels)	27.1	26.4	26.2	25.1	12.8	12.0

Source: Oil Companies and DGH; (P): Provisional

Table 2.6 : Self sufficiency in petroleum products

(Million metric tonne)						
Particulars	2015-16	2016-17	2017-18	2018-19	Apr-Sep 2018	Apr-Sep 2019 (P)
i) Indigenous crude oil processing	34.1	33.5	32.8	31.7	16.0	15.0
a) Products from indigeneous crude	31.8	31.3	30.6	29.6	15.0	14.0
b) Products from fractionators	4.0	4.3	4.6	4.9	2.4	2.4
ii) Total production from indigenous crude and fractionators (a+b)	35.8	35.6	35.2	34.5	17.4	16.4
iii) Total domestic consumption	184.7	194.6	206.2	213.2	104.2	105.7
Percentage of self sufficiency (ii/iii)	19.4%	18.3%	17.1%	16.2%	16.7%	15.5%

Source: Oil companies (P): Provisional

Note:

1. Production of petroleum products from indigenous crude considered at 93.3% of indigenous crude oil processing.
2. The balance demand of petroleum products is met through import of crude oil and POL products.

Table 2.7 (A) : Status of blocks under NELP (as on 01.10.2019)

Round	Offered	Awarded				Relinquished/Proposed for Relinquishment				Operational			
		Deep water	Shallow water	Onland	Total	Deep water	Shallow water	Onland	Total	Deep water	Shallow water	Onland	Total
NELP-I	48	7	16	1	24	5	15	1	21	2	1	0	3
NELP-II	25	8	8	7	23	8	7	6	21	0	1	1	2
NELP-III	27	9	6	8	23	9	5	5	19	0	1	3	4
NELP-IV	24	10	0	10	20	10	-	6	16	0	0	4	4
NELP-V	20	6	2	12	20	6	1	9	16	0	1	3	4
NELP-VI	55	21	6	25	52	21	3	19	43	0	3	6	9
NELP-VII	57	11	7	23	41	11	4	16	31	0	3	7	10
NELP-VIII	70	8	11	13	32	8	9	9	26	0	2	4	6
NELP-IX	34	1	3	15	19	1	2	6	9	0	1	9	10
Total	360	81	59	114	254	79	46	77	202	2	13	37	52

Source: DGH

Table 2.7 (B) : Status of blocks under OALP round of HELP and DSF rounds (as on 01.10.2019)

Round	Offered	Awarded				Relinquished/Proposed for Relinquishment				Operational			
		Ultra Deep/Deep water	Shallow water	Onland	Total	Ultra Deep/Deep water	Shallow water	Onland	Total	Ultra Deep/Deep water	Shallow water	Onland	Total
OALP Round-I	55	1	8	46	55	0	0	0	0	1	8	46	55
OALP Round-II	14	1	5	8	14	0	0	0	0	1	5	8	14
OALP Round-III	23	1	3	14	18	0	0	0	0	1	3	14	18
DSF Round-I	46	0	7	23	30	0	0	0	0	0	7	23	30
DSF Round-II	25	0	9	14	23	0	0	0	0	0	9	14	23
TOTAL	163	3	32	105	140	0	0	0	0	3	32	105	140

Source: DGH

Table 2.8 : Domestic oil & gas production vis a vis overseas production

Year	2015-16	2016-17	2017-18	2018-19	Apr-Sep 2018	Apr-Sep 2019 (P)
Total domestic production (MMTOE)	69.1	67.9	68.3	67.1	33.7	32.4
Overseas production (MMTOE)	10.1	17.6	22.7	24.7	12.0	12.4
Overseas production as percentage of domestic production	14.6	25.9	33.2	36.8	35.7	38.2

Source: ONGC Videsh Ltd., OIL, GAIL, BPRL, IOCL and HPCL
(P): Provisional

Table 2.9 : Coal Bed Methane (CBM) gas development in India

Prognosticated CBM resources	92	TCF
Established CBM resources	9.9	TCF
Total available coal bearing area	26,000	Sq.KM
Blocks awarded*	33	Nos.
Commercial production of CBM Gas (Apr-Sep 2019) (P)	326	MMSCM

Source: DGH

*CBM blocks have been awarded in the states of Andhra Pradesh, Assam, Chhattisgarh, Gujarat, Jharkhand, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu and West Bengal.

Table 2.10 : Status of shale gas and oil development in India

Policy Guidelines for Exploration & exploitation of Shale gas and oil	<p>Shale gas and oil exploration policy was announced in October 2013. ONGC and OIL have been allotted 50 and 6 blocks respectively for assessment under Phase-I. ONGC identified 50 blocks in 4 basins and OIL identified 6 blocks in 2 basins in Phase-I.</p> <p>Under Hydrocarbon Exploration and Licensing Policy (HELP), 2016 the single licence will enable the contractor to explore conventional as well as unconventional oil and gas resources including CBM, shale gas/oil, tight gas and gas hydrates.</p> <p>In August 2018, the Government of India notified a Policy framework for Exploration and exploitation of Unconventional hydrocarbons in existing acreages under existing Production Sharing Contracts (PSC), Coal Bed Methane (CBM) Contracts and Nomination fields.</p>
Oil India Limited (OIL): Activities during 2019-20	<p>Jaisalmer PML block, Rajasthan: Final evaluation report has been submitted to DGH.</p> <p>Dibrugarh/Dumduma /Chabua PML blocks, Assam: Core evaluation and economic prospectivity reports are submitted to DGH.</p> <p>Jairampur Extn. PEL and Deomali PEL, Arunachal Pradesh: Waiting for Environmental Clearance (EC).</p>
Oil and Natural Gas Corporation Limited (ONGC): Activities during 2019-20	<p>During 2019-20 till 01.10.2019 two wells have been drilled in Cambay and KG basin each.</p> <p>Cambay Basin:</p> <p>NJ#130(NJSGA): The exclusive shale exploration well NJSGA (NJ#130) drilled in Nandej East PML Block, Cambay Basin.</p> <p>NG#295(NGSGA): Exclusive shale exploration well NGSAG drilled in Nawagam main block.</p> <p>KG Basin:</p> <p>The dual objective well GMTAA (GUMMATURU#1) drilled in Kavitam additional PML block of KG basin.</p>



Chapter 3

Natural Gas



Table 3.1 : World top 30 natural gas reserve countries

		(Trillion cubic metres)
Sl. no.	Country	2018
1	Russian Federation	38.9
2	Iran	31.9
3	Qatar	24.7
4	Turkmenistan	19.5
5	US	11.9
6	Venezuela	6.3
7	China	6.1
8	United Arab Emirates	5.9
9	Saudi Arabia	5.9
10	Nigeria	5.3
11	Algeria	4.3
12	Iraq	3.6
13	Indonesia	2.8
14	Malaysia	2.4
15	Australia	2.4
16	Egypt	2.1
17	Azerbaijan	2.1
18	Canada	1.9
19	Kuwait	1.7
20	Norway	1.6
21	Libya	1.4
22	India	1.3
23	Uzbekistan	1.2
24	Myanmar	1.2
25	Ukraine	1.1
26	Kazakhstan	1.0
27	Oman	0.7
27	Vietnam	0.6
29	Netherlands	0.6
30	Israel	0.4
	Sub total	190.9
	Others	6.0
	Total World	196.9
	of which: OECD	19.4
	Non-OECD	177.4
	European Union	1.1

Source: BP Statistical Review of World Energy, June 2019

Table 3.2 : World top 30 natural gas producing countries

		(Billion cubic metre)
Sl. no.	Country	2018
1	US	831.8
2	Russian Federation	669.5
3	Iran	239.5
4	Canada	184.7
5	Qatar	175.5
6	China	161.5
7	Australia	130.1
8	Norway	120.6
9	Saudi Arabia	112.1
10	Algeria	92.3
11	Indonesia	73.2
12	Malaysia	72.5
13	United Arab Emirates	64.7
14	Turkmenistan	61.5
15	Egypt	58.6
16	Uzbekistan	56.6
17	Nigeria	49.2
18	United Kingdom	40.6
19	Argentina	39.4
20	Thailand	37.7
21	Mexico	37.4
22	Oman	36.0
23	Pakistan	34.2
24	Trinidad & Tobago	34.0
25	Venezuela	33.2
26	Netherlands	32.3
27	Bangladesh	27.5
28	India	27.5
29	Brazil	25.2
30	Kazakhstan	24.4
	Sub total	3583.2
	Others	284.7
	Total World	3867.9
	of which: OECD	1422.5
	Non-OECD	2445.3
	European Union	109.2

Source: BP Statistical Review of World Energy, June 2019

Table 3.3 : World top 30 natural gas consuming countries

		(Billion cubic metre)
Sl. no.	Country	2018
1	US	817.1
2	Russian Federation	454.5
3	China	283.0
4	Iran	225.6
5	Canada	115.7
6	Japan	115.7
7	Saudi Arabia	112.1
8	Mexico	89.5
9	Germany	88.3
10	United Kingdom	78.9
11	United Arab Emirates	76.6
12	Italy	69.2
13	Egypt	59.6
14	India	58.1
15	South Korea	55.9
16	Thailand	49.9
17	Argentina	48.7
18	Turkey	47.3
19	Pakistan	43.6
20	Algeria	42.7
21	France	42.7
22	Uzbekistan	42.6
23	Qatar	41.9
24	Australia	41.4
25	Malaysia	41.3
26	Indonesia	39.0
27	Brazil	35.9
28	Netherlands	35.7
29	Venezuela	33.4
30	Spain	31.5
	Sub total	3317.3
	Others	531.5
	Total World	3848.9
	of which: OECD	1750.6
	Non-OECD	2098.3
	European Union	458.5

Source: BP Statistical Review of World Energy, June 2019

Table 3.4 : Natural gas at a glance

	(MMSCM)					
	2015-16	2016-17	2017-18	2018-19	Apr-Sep 2018	Apr-Sep 2019 (P)
Gross production	32249	31897	32649	32875	16254	16005
Net production (net of flare and loss)	31129	30848	31731	32058	15863	15539
LNG import	21388	24849	27439	28740	15078	16276
Total consumption including internal use (Net production+ LNG import)	52517	55697	59170	60798	30941	31815
Total consumption (in BCM)	52.5	55.7	59.2	60.8	30.9	31.8

Table 3.5 : Natural gas production

	(MMSCM)					
	2015-16	2016-17	2017-18	2018-19	Apr-Sep 2018	Apr-Sep 2019 (P)
ONGC						
A) Gross production	21177	22088	23429	24677	12017	12072
B) Flared	647	530	450	449	205	277
C) Internal use*	4454	4499	4427	4629	2281	2357
D) Loss	0	0	0	0	0	0
D) =A-B-C Net production for sale	16075	17059	18553	19599	9532	9437
Oil India Limited						
A) Gross production	2838	2937	2881	2722	1366	1384
B) Flared	125	117	114	122	58	73
C) Internal use*	399	405	398	382	194	192
D) Loss	0	2	5	12	6	6
D) =A-B-C Net production for sale	2314	2412	2365	2207	1108	1114
PSC/JVs fields						
A) Gross production	8235	6872	6338	5477	2871	2549
B) Flared	235	330	261	153	76	85
C) Internal use	979	952	981	1007	515	503
D) Loss	113	70	89	81	46	25
E) =A-B-C-D Net production for sale	6908	5520	5007	4235	2234	1936
Grand Total						
A) Gross production	32249	31897	32649	32875	16254	16005
B) Flared	1007	977	824	724	339	435
C) Internal use	5832	5856	5806	6017	2990	3052
D) Loss	113	72	94	93	52	31
E) =A-B-C-D Net production for sale	25297	24992	25925	26041	12873	12487

Source: Domestic Gas Producers / DGH / LNG Importing companies/DGCIS

Note: LNG import data in Million Metric Tonne (MMT), converted to MMSCM; 1MMT=1325 MMSCM; BCM: Billion Cubic Meter; MMSCMD: Million Standard Cubic Meter per Day

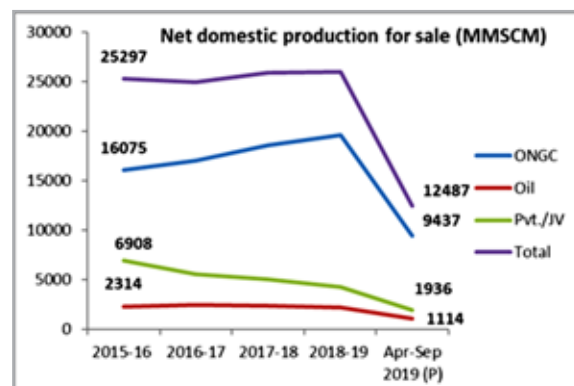
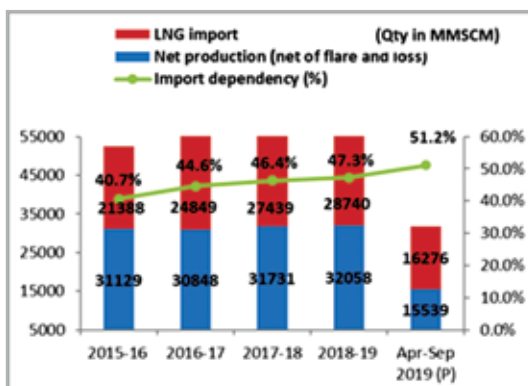


Table 3.6 : PNG data as on 01.10.2019

Sl. no.	State	Geographical Area (GA)/city covered	Entity	PNG connections		
				Domestic	Commercial	Industrial
1	Andhra Pradesh	Vijaywada	Bhagyanagar Gas Limited	11,018	13	0
		Kakinada	Bhagyanagar Gas Limited	28,849	93	1
		West /East Godavari	Godavari Gas Pvt.Ltd.	31,699	8	1
		Krishna District excl. area already authorized	Megha Engineering & Infrastructures Ltd.	4,234	40	4
		Total	75,800	154	6	
2	Assam	Upper Assam GA	Assam Gas Company Limited	34,054	1,116	403
		Total	34,054	1,116	403	
3	Bihar	Patna	GAIL (India) Ltd.	524	1	0
		Total	524	1	0	
4	Chandigarh	Chandigarh GA	Indian Oil-Adani Gas Pvt. Ltd.	17,065	1	1
		Total	17,065	1	1	
5	Daman and Diu	Daman	Indian Oil-Adani Gas Pvt. Ltd.	766	21	14
		Total	766	21	14	
6	Delhi/NCR	National Capital Territory of Delhi (including Noida & Ghaziabad)	Indraprastha Gas Limited	12,02,081	2,721	2,116
		Total	12,02,081	2,721	2,116	
7	Gujarat and Dadra & Nagar Haveli	Ahmedabad City & Daskroi area excl. already authorized area	Adani Gas Ltd.	3,91,226	2,627	833
		Vadodara rural	Adani Gas Ltd.	561	1	90
		Anand area incl. Kanjari and Vadtal villages GA	Charotar Gas Sahakari Mandali Ltd	30,084	648	121
		Merger of GGCL & GSPC	Gujarat Gas Limited	14,00,578	12,356	3,622
		Banaskantha / Palanpur district	IRM Energy Pvt. Ltd.	11,695	49	8
		Gandhinagar, Mehsana & Sabarkantha GA	Sabarmati Gas Ltd.	1,62,329	706	322
		Patan district GA	Sabarmati Gas Ltd.	6,672	8	3
		Total	21,36,460	18,950	5,001	
8	Haryana	Faridabad district	Adani Gas Limited	65,002	122	305
		Sonipat district	Gail Gas Limited	16,933	30	95
		Gurugram district	Haryana City Gas Distribution Ltd	19,145	132	87
		Panipat district	Indian Oil-Adani Gas Pvt. Ltd.	2,070	1	6
		Gurugram district	Indraprastha Gas Limited	7,561	6	1
		Rewari district	Indraprastha Gas Limited	5,531	2	37
		Karnal	Indraprastha Gas Limited	2,086	0	0
		Nuh and Palwal districts	Adani Gas Limited	1,621	2	27
		Total	1,19,949	295	558	
9	Jharkhand	Ranchi	GAIL (India) Ltd.	80	0	0
		Total	80	0	0	
10	Karnataka	Bengaluru rural and urban district GA	Gail Gas Ltd.	16,186	95	73
		Tumkur district GA	Megha Engineering & Infrastructures Ltd.	5,542	53	12
		Belgaum district GA	Megha Engineering & Infrastructures Ltd.	4,286	28	11
		Dharwad district	Indian Oil-Adani Gas Pvt. Ltd.	336	1	0
		Total	26,350	177	96	
11	Kerala	Ernakulam district	Indian Oil-Adani Gas Pvt. Ltd.	1,213	10	3
		Total	1,213	10	3	

Table 3.6 : Continued

Sl. no.	State	Geographical area/city covered	Entity	PNG connections		
				Domestic	Commercial	Industrial
12	Madhya Pradesh	Indore GA incl. Ujjain city	Aavantika Gas	44,843	80	178
		Gwalior GA	Aavantika Gas	15,287	36	3
		Dewas	Gail Gas Ltd.	8,909	18	28
		Total	69,039	134	209	
13	Maharashtra	Pune City including Pimpri Chinchwad along with adjoining contiguous areas of Hinjewadi, Chakan & Talegaon GA	Maharashtra Natural Gas Limited	1,97,642	332	191
		Mumbai, Greater Mumbai, Thane Urban, Mira Bhayender, Navi Mumbai, Ambernath, Bhiwandi, Kalyan, Dombivli, Badlapur, Ulhasnagar, Panvel, Kharghar & Taloja, Raigarh District GA excl area already authorized	Mahanagar Gas Limited	13,66,760	3,847	77
		Palghar district and Thane rural GA	Gujarat Gas Limited	241	8	4
		Pune excluding areas already authorized	Mahesh Gas Ltd.	0	0	1
		Ratnagiri	Unison Enviro Pvt Ltd.	135	0	7
		Total	15,64,778	4,187	280	
14	Odisha	Khorda district GA	GAIL (India) Ltd.	338	0	0
		Total	338	0	0	
15	Punjab	Fatehgarh Sahib district	IRM Energy Pvt. Ltd.	830	2	16
		Amritsar	GSPL	123	0	0
		Bhatinda	GSPL	17	0	0
		Total	970	2	16	
16	Rajasthan	Kota	Rajasthan State Gas Limited	4,885	19	15
		Neemrana & Kukas	Rajasthan State Gas Limited	0		1
		Total	4,885	19	16	
17	Telangana	Hyderabad	Bhagyanagar Gas Limited	16,275	13	26
		Total	16,275	13	26	
18	Tripura	Agartala	Tripura Natural Gas Company Limited	41,446	424	50
		Total	41,446	424	50	
19	Uttar Pradesh	Khurja GA	Adani Gas Ltd.	11,359	3	187
		Kanpur GA	Central UP Gas Ltd	44,125	152	59
		Bareilly GA	Central UP Gas Ltd	19,660	106	15
		Meerut	Gail Gas Ltd.	28,038	20	32
		Firojabad (TTZ) GA	Gail Gas Ltd.	6,322	0	341
		Lucknow district	Green Gas Ltd	37,582	52	10
		Agra	Green Gas Ltd	35,886	58	19
		Allahabad GA	Indian Oil-Adani Gas Pvt. Ltd.	4,140	4	1
		Mathura	Sanwaria Gas Ltd	4,440	37	68
		Moradabad GA	SITI Energy Limited	5,113	61	6
Varanasi district	GAIL (India) Ltd.	2,682	10	0		
		Total	1,99,347	503	738	
20	Uttarakhand	Udham Singh Nagar district	Indian Oil-Adani Gas Pvt. Ltd.	2,479	10	13
		Haridwar district GA	HNGPL	3,493	0	0
		Total	5,972	10	13	
		Grand Total	55,17,392	28,738	9,546	

Sources : CGD entities

Table 3.7: CNG sales in India

(Sales in TMT)								
State	Entity name	No. of entities as on 01.10.2019	2015-16	2016-17	2017-18	2018-19	Apr-Sep 2018	Apr-Sep 2019 (P)
Andhra Pradesh / Telangana	Bhagyanagar Gas Ltd, Godavari Gas Pvt.Ltd., Megha Engineering & Infrastructures Ltd.	3	27	29	32	31	16	18
Bihar	GAIL (India) Limited	1						1
Chandigarh	Indian Oil-Adani Gas Pvt. Ltd.	1	-	0	5	15	6	11
Daman and Diu	Indian Oil-Adani Gas Pvt. Ltd.	1			1	2	1	1
Delhi/NCR	Indraprastha Gas Ltd .	1	738	804	1,016	1,144	485	615
Goa	Goa Natural Gas Private Limited	1						0.001
Gujarat & Dadra Nagar Haveli	Sabarmati Gas Ltd, Gujarat Gas Ltd, Adani Gas Ltd, Vadodara Gas Ltd, Hindustan Petroleum Corporation Ltd, Charotar Gas Sahakari Mandal Ltd, IRM Energy Ltd.	7	503	546	612	662	330	369
Haryana	Haryana City Gas Distribution Ltd, Adani Gas Limited, GAIL Gas Ltd., Indraprastha Gas Ltd. , Indian Oil-Adani Gas Pvt. Ltd.	4	75	109	144	179	89	95
Jharkhand	GAIL Gas Limited	1						0.01
Karnataka	Gail Gas Ltd., Megha Engineering & Infrastructures Ltd.	2	-	0	0	0.3	0.04	0.6
Kerala	Indian Oil-Adani Gas Pvt. Ltd.	1			0	1	0	3
Madhya Pradesh	Aavantika Gas Ltd, GAIL Gas Ltd	2	19	22	25	31	14	17
Maharashtra	Mahanagar Gas Ltd, Maharashtra Natural Gas Ltd, Gujarat Gas Limited, Mahesh Gas Ltd, Unison Enviro Private Limited	5	565	593	630	702	343	371
Odisha	GAIL (India) Ltd.	1			0	1	0	2
Punjab	IRM Energy Pvt. Ltd., GSPL	2				1	0	2
Rajasthan	Rajasthan State Gas Limited	1	4	4	5	7	5	6
Tripura	Tripura Natural Gas Co. Ltd	1	11	12	13	15	7	8
Uttar Pradesh	GAIL Gas Ltd, Sanwariya Gas Ltd, Green Gas Ltd, Central U.P. Gas Ltd, Siti Energy Ltd, Adani Gas Ltd, Indian Oil-Adani Gas Pvt. Ltd., Torrent Gas Pvt Ltd., GAIL (India) Ltd.	9	212	245	153	282	165	107
Uttarakhand	Indian Oil-Adani Gas Pvt. Ltd.	1				0.1	0	0.2
West Bengal	Great Eastern Energy Corporation Ltd.	1	1	2	2	3	1	1
Total			2,155	2,365	2,638	3,076	1,463	1,626

Source : CGD entities

Table 3.8: CNG stations and vehicles as on 01.10.2019

State	Company name	No. of CNG stations	No. of CNG vehicles
Andhra Pradesh / Telangana	Bhagyanagar Gas Ltd, Godavari Gas Pvt.Ltd., Megha Engineering & Infrastructures Ltd.	49	19,950
Assam	Assam Gas Co. Ltd	1	0
Bihar	GAIL (India) Ltd.	2	1,349
Chandigarh	Indian Oil-Adani Gas Pvt. Ltd.	11	7,500
Daman and Diu	Indian Oil-Adani Gas Pvt. Ltd.	3	1,000
Delhi/NCR	Indraprastha Gas Ltd .	489	10,76,461
Gujarat & Dadra Nagar Haveli	Sabarmati Gas Ltd, Gujarat Gas Ltd, Adani Gas Ltd, Vadodara Gas Ltd, Hindustan Petroleum Corporation Ltd, Charotar Gas Sahakari Mandal Ltd, IRM Energy Ltd.	562	9,58,219
Haryana	Haryana City Gas Distribution Ltd, Adani Gas Limited, GAIL Gas Ltd., Indraprastha Gas Ltd. , Indian Oil-Adani Gas Pvt. Ltd.	85	1,62,133
Jharkhand	GAIL (India) Ltd.	2	191
Karnataka	Gail Gas Ltd., Megha Engineering & Infrastructures Ltd.	20	1,295
Kerala	Indian Oil-Adani Gas Pvt. Ltd.	5	1100
Madhya Pradesh	Aavantika Gas Ltd, GAIL Gas Ltd	44	36,633
Maharashtra	Mahanagar Gas Ltd, Maharashtra Natural Gas Ltd, Gujarat Gas Limited, Mahesh Gas Ltd, Unison Enviro Private Limited	332	9,69,175
Odisha	GAIL (India) Ltd.	6	3,105
Punjab	IRM Energy Pvt. Ltd., GSPL	9	2,678
Rajasthan	Rajasthan State Gas Limited	6	11,297
Telangana	Bhagyanagar Gas Ltd.	50	25,174
Tripura	Tripura Natural Gas Co. Ltd	8	12,126
Uttar Pradesh	GAIL Gas Ltd, Sanwariya Gas Ltd, Green Gas Ltd, Central U.P. Gas Ltd, Siti Energy Ltd, Adani Gas Ltd, Indian Oil-Adani Gas Pvt. Ltd.,Torrent Gas Pvt Ltd., GAIL (India) Ltd.	145	1,60,944
Uttarakhand	Indian Oil-Adani Gas Pvt. Ltd.	2	150
West Bengal	Great Eastern Energy Corporation Ltd.	7	3,858
All India		1,838	34,54,338

Source : CGD Companies

Table 3.9 : LNG terminals (Operational)

Sl. no.	Promoters	Capacity (MMTPA)	Annualised Capacity Utilization (%) April-Sept 2019 (P)
1	Dahej-Petronet LNG Ltd. (PLL)	16.3 MMTPA	109.3
2	Hazira LNG Pvt. Ltd. (HLPL)	5 MMTPA	99.5
3	Ratnagiri Gas and Power Pvt. Ltd. (RGPP- JV of GAIL & NTPC)	5 MMTPA	4.8
4	Kochi-Petronet LNG Ltd. (PLL)	5 MMTPA	14.8
5	Ennore (Indian Oil LNG Pvt Ltd)	5 MMTPA	4.8
Total		36.3 MMTPA	

Source: LNG terminal operating companies

Table 3.10 : Import of Liquefied Natural Gas (LNG)

LNG import quantity/value			
Financial year	MMT	MMSCM	Value (Mn. USD)
2015-16	16.1	21,388	6,897
2016-17	18.8	24,849	6,128
2017-18	20.7	27,439	8,051
2018-19	21.7	28,740	10,253
Apr-Sep 2018	11.4	15,078	5,265
Apr-Sep 2019 (P)	12.3	16,276	4,701

Source: LNG importing companies & DGCIS

Table 3.11 : Domestic natural gas price and gas price ceiling

Period	Domestic natural gas price in US\$/MMBTU (GCV basis)*	Gas price ceiling in US\$/MMBTU (GCV basis)**
November 2014 - March 2015	5.05	-
April 2015 - September 2015	4.66	-
October 2015 - March 2016	3.82	-
April 2016 - September 2016	3.06	6.61
October 2016 - March 2017	2.50	5.30
April 2017 - September 2017	2.48	5.56
October 2017 - March 2018	2.89	6.30
April 2018 - September 2018	3.06	6.78
October 2018 - March 2019	3.36	7.67
April 2019 - September 2019	3.69	9.32
October 2019 - March 2020	3.23	8.43

Note:

* As per the "New Domestic Natural Gas Pricing Guidelines, 2014" issued by Ministry of Petroleum & Natural Gas dated October 25, 2014.

** As per the notification issued by Ministry of Petroleum and Natural Gas dated 21.03.2016 on marketing including pricing freedom for the gas to be produced from discoveries in Deepwater, Ultra Deepwater and High Pressure-High Temperature areas.



Chapter 4

Refining & Production



Map of Refineries in India

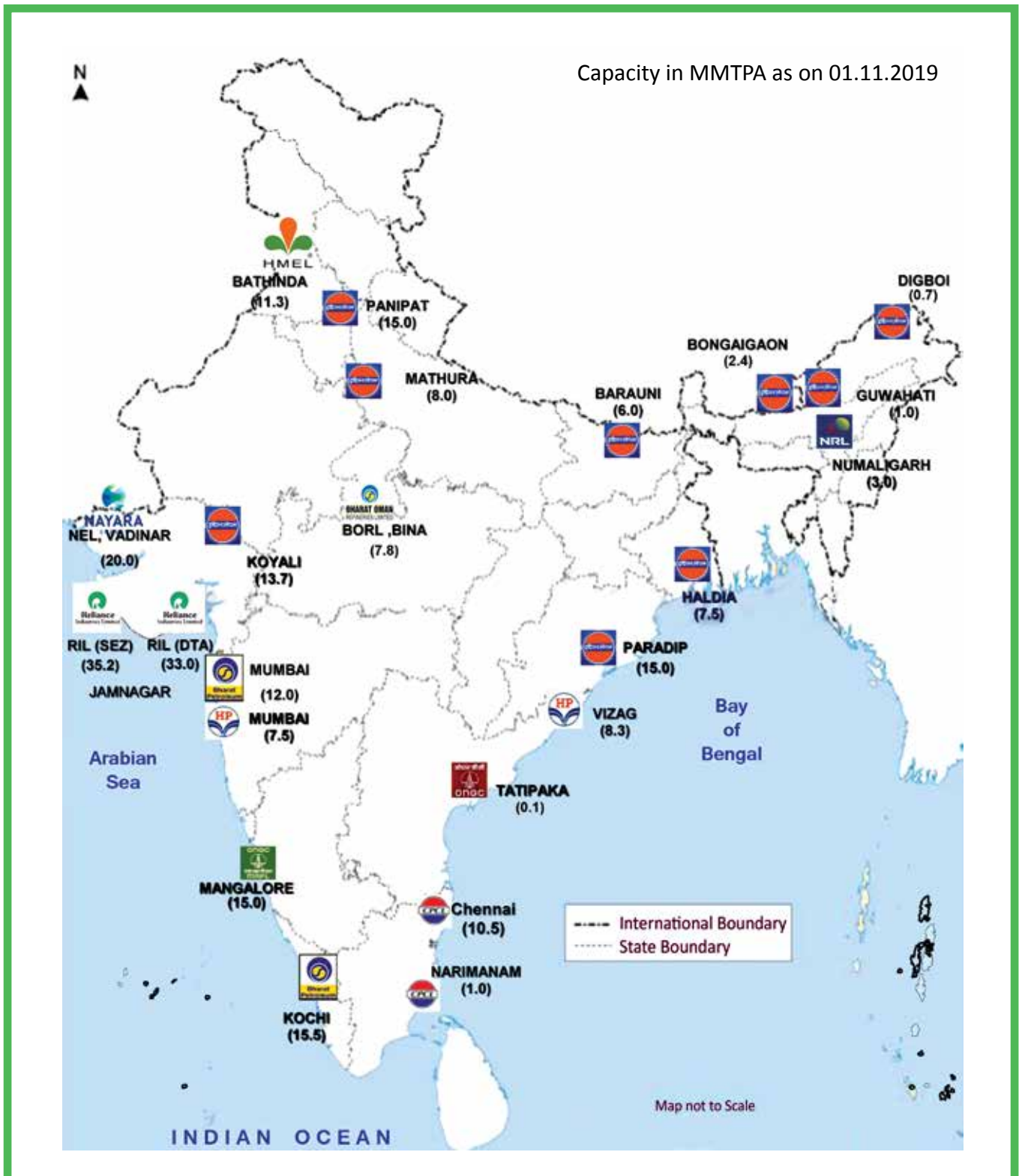


Table 4.1 : Refineries: Installed capacity and crude oil processing

Sl. no.	Refinery	Installed capacity (MMTPA)				Crude Oil Processing (MMT)					
		01.04.2016	01.04.2017	01.04.2018	01.04.2019	2015-16	2016-17	2017-18	2018-19	Apr-Sep 2018	Apr-Sep 2019 (P)
1	Barauni	6.0	6.0	6.0	6.0	6.5	6.5	5.8	6.7	3.2	3.2
2	Koyali	13.7	13.7	13.7	13.7	13.8	14.0	13.8	13.5	6.6	5.6
3	Haldia	7.5	7.5	7.5	7.5	7.8	7.7	7.7	8.0	4.0	3.9
4	Mathura	8.0	8.0	8.0	8.0	8.9	9.2	9.2	9.7	4.8	5.2
5	Panipat	15.0	15.0	15.0	15.0	15.3	15.6	15.7	15.3	8.2	7.1
6	Guwahati	1.0	1.0	1.0	1.0	0.9	0.9	1.0	0.9	0.5	0.5
7	Digboi	0.65	0.65	0.65	0.65	0.6	0.5	0.7	0.7	0.3	0.3
8	Bongaigaon	2.4	2.4	2.4	2.4	2.4	2.5	2.4	2.5	1.2	1.2
9	Paradip	15.0	15.0	15.0	15.0	1.8	8.2	12.7	14.6	6.6	7.8
	IOCL total	69.2	69.2	69.2	69.2	58.0	65.2	69.0	71.8	35.5	34.8
10	Mumbai	6.5	7.5	7.5	7.5	8.0	8.5	8.6	8.7	4.4	3.8
11	Visakh	8.3	8.3	8.3	8.3	9.2	9.3	9.6	9.8	4.9	4.6
12	HMEL-Bathinda	9.0	9.0	11.3	11.3	10.7	10.5	8.8	12.5	6.2	5.9
	HPCL total	23.8	24.8	27.1	27.1	27.9	28.3	27.1	30.9	15.5	14.3
13	Mumbai	12.0	12.0	12.0	12.0	13.4	13.5	14.1	14.8	7.2	7.0
14	Kochi	9.5	12.4	15.5	15.5	10.7	11.8	14.1	16.1	8.2	8.2
15	BORL-Bina	6.0	6.0	6.0	7.8	6.4	6.4	6.7	5.7	2.5	3.8
	BPCL total	27.5	30.4	33.5	35.3	30.5	31.7	34.9	36.5	17.9	19.0
16	Manali	10.5	10.5	10.5	10.5	9.1	9.8	10.3	10.3	5.3	5.2
17	CBR	1.0	1.0	1.0	1.0	0.5	0.5	0.5	0.4	0.2	0.0
	CPCL total	11.5	11.5	11.5	11.5	9.6	10.3	10.8	10.7	5.5	5.2
18	NRL Numaligarh	3.0	3.0	3.0	3.0	2.5	2.7	2.8	2.9	1.4	1.4
19	Tatipaka	0.07	0.07	0.07	0.07	0.07	0.09	0.08	0.07	0.03	0.04
20	MRPL-Mangalore	15.0	15.0	15.0	15.0	15.5	16.0	16.1	16.2	7.7	6.0
	ONGC total	15.1	15.1	15.1	15.1	15.6	16.1	16.2	16.3	7.7	6.1
21	RIL-Jamnagar (DTA)	33.0	33.0	33.0	33.0	32.4	32.8	33.2	31.8	16.5	15.4
22	RIL-Jamnagar (SEZ)	27.0	27.0	35.2	35.2	37.1	37.4	37.3	37.4	18.1	19.1
23	NEL*-Vadinar	20.0	20.0	20.0	20.0	19.1	20.9	20.7	18.9	10.5	10.4
	All India	230.1	234.0	247.6	249.4	232.9	245.4	251.9	257.2	128.7	125.7

Source: Oil companies, *Nayara Energy Limited (formerly Essar Oil Limited)
MMTPA: Million Metric Tonne Per Annum, MMT: Million Metric Tonne; (P): Provisional

Table 4.2 : High Sulphur (HS) & Low Sulphur (LS) crude oil processing

(Million metric tonne)							
Sl. no.	Type of crude	2015-16	2016-17	2017-18	2018-19	Apr-Sep 2018	Apr-Sep 2019 (P)
1	HS crude	166.1	177.4	188.4	194.2	98.2	92.9
2	LS crude	66.7	67.9	63.6	63.0	30.5	32.8
	Total crude	232.9	245.4	251.9	257.2	128.7	125.7
	Share of HS crude in total crude processing	71.3%	72.3%	74.8%	75.5%	76.3%	73.9%

Source: Oil companies; (P): Provisional

Table 4.3 : Imported crude & indigenous crude oil processing

(Million metric tonne)							
Sl. no.	Indigenous/ Imported crude	2015-16	2016-17	2017-18	2018-19	Apr-Sep 2018	Apr-Sep 2019 (P)
1	Imported crude	198.7	211.8	219.1	225.5	112.6	110.7
2	Indigenous crude	34.1	33.5	32.8	31.7	16.0	15.0
	Total crude	232.9	245.4	251.9	257.2	128.7	125.7
	Share of imported crude in total crude processing	85.3%	86.3%	87.0%	87.7%	87.5%	88.1%

Source: Oil companies; (P): Provisional

Table 4.4 : Production of petroleum products

(Million metric tonne)

Products	2015-16	2016-17	2017-18	2018-19	Apr-Sep 2018	Apr-Sep 2019 (P)
A) From crude oil/refineries						
Light ends	70.6	75.0	83.7	85.1	42.3	41.6
of which: LPG	8.6	9.2	10.2	10.7	5.2	5.1
MS	35.3	36.6	37.8	38.0	19.1	19.2
Naphtha	16.8	18.6	18.8	18.4	9.2	8.7
Others	9.9	10.7	17.0	18.0	8.7	8.6
Middle distillates	122.9	127.9	131.2	136.3	68.2	67.0
of which: SKO	7.4	5.9	4.2	4.0	2.1	1.6
ATF	11.8	13.8	14.6	15.5	7.6	7.4
HSD	98.6	102.1	108.0	110.5	55.0	54.8
LDO	0.4	0.6	0.6	0.7	0.3	0.3
Others	4.7	5.4	3.7	5.7	3.1	2.9
Heavy ends	34.4	36.3	34.8	36.0	17.9	17.2
of which: Furnace Oil	10.3	11.8	9.8	9.5	4.7	4.7
LSHS	0.4	0.3	0.5	0.4	0.2	0.2
Lube Oil	1.0	1.0	1.0	0.9	0.5	0.5
Bitumen	5.2	5.2	5.3	5.6	2.5	2.3
RPC/Petcoke	13.3	12.9	13.9	13.7	7.1	6.8
Others	4.2	5.2	4.3	5.9	2.8	2.7
Sub total (A)	227.9	239.2	249.7	257.4	128.3	125.8
B) From natural gas / fractionators						
Sub total (B)	4.0	4.3	4.6	4.9	2.4	2.4
of which: LPG	2.0	2.1	2.2	2.1	1.0	1.0
Naphtha	1.1	1.2	1.2	1.2	0.6	0.6
SKO	0.07	0.03	0.05	0.1	0.03	0.04
HSD	0.01	0.01	0.01	0.04	0.02	0.03
Others	0.8	1.0	1.1	1.5	0.7	0.8
Total production (A + B)	231.9	243.5	254.3	262.4	130.8	128.1

Source: Oil companies; (P): Provisional

Table 4.5 : Production of petroleum products : All sources

(Million metric tonne)						
Major products	2015-16	2016-17	2017-18	2018-19	Apr-Sep 2018	Apr-Sep 2019 (P)
HSD	98.6	102.1	108.1	110.6	55.0	54.8
MS	35.3	36.6	37.8	38.0	19.1	19.2
Naphtha	17.9	19.7	20.0	19.6	9.8	9.3
FO	10.3	11.8	9.8	9.5	4.7	4.7
ATF	11.8	13.8	14.7	15.5	7.7	7.4
LPG	10.6	11.3	12.4	12.8	6.3	6.1
SKO	7.5	6.0	4.3	4.1	2.1	1.6
Bitumen	5.2	5.2	5.3	5.6	2.5	2.3
LSHS	0.4	0.3	0.5	0.4	0.2	0.2
Lubes	1.0	1.0	1.0	0.9	0.5	0.5
LDO	0.4	0.6	0.6	0.7	0.3	0.3
RPC/Petcoke	13.3	12.9	13.9	13.7	7.1	6.8
Others#	19.6	22.3	26.2	31.0	15.4	14.9
Total	231.9	243.5	254.3	262.4	130.8	128.1

Source: Oil companies

Others include products like Propylene, Solvents (Hexane, Benzene, Toluene, Xylene and Specialty solvents), Reformate, Mineral Turpentine Oil, Carbon Black Feed Stock, Waxes, Sulphur etc.; (P): Provisional

Table 4.6 : Production vis a vis consumption of petroleum products

(Million metric tonne)			
Year	Consumption §	Production from refineries & other sources*	Surplus (+) / Deficit (-)
	(A)	(B)	(B)-(A)
1997-98	84.3	64.7	-19.6
1998-99	90.6	68.4	-22.2
1999-00	97.1	82.9	-14.2
2000-01	100.1	99.6	-0.5
2001-02	100.4	104.3	3.9
2002-03	104.1	108.7	4.5
2003-04	107.8	117.6	9.9
2004-05	111.6	123.3	11.6
2005-06	113.2	124.6	11.4
2006-07	120.7	140.6	19.9
2007-08	128.9	150.4	21.5
2008-09	133.6	157.9	24.3
2009-10	137.8	185.5	47.7
2010-11	141.0	196.2	55.2
2011-12	148.1	204.5	56.3
2012-13	157.1	218.2	61.2
2013-14	158.4	220.7	62.3
2014-15	165.5	221.1	55.6
2015-16	184.7	231.9	47.2
2016-17	194.6	243.5	48.9
2017-18	206.2	254.3	48.1
2018-19	213.2	262.4	49.1
Apr-Sep 2018	104.2	130.8	26.5
Apr-Sep 2019 (P)	105.7	128.1	22.4

Note: § includes direct imports by private parties *Fractionators and gas processing plants; (P): Provisional

Table 4.7 : Gross Refining Margins (GRM) of refineries

								(\$/bbl)
Company	Refinery	2014-15	2015-16	2016-17	2017-18	2018-19	Apr-Sep 2018	Apr-Sep 2019 (P)
PSU refineries								
IOCL	Barauni	(1.20)	2.93	6.52	6.60	3.86	6.83	1.75
	Koyali	4.79	6.80	7.55	9.44	4.87	7.73	2.32
	Haldia	(1.51)	3.96	6.80	6.86	5.36	7.67	2.21
	Mathura	(2.19)	3.30	7.01	7.09	4.65	7.54	2.12
	Panipat	(1.97)	4.15	7.95	7.74	4.66	8.39	2.42
	Guwahati**	8.68	15.88	22.14	21.88	16.35	18.52	17.06
	Digboi**	13.73	16.17	24.49	24.86	22.74	25.70	20.55
	Bongaigaon**	(0.26)	11.09	20.15	20.62	16.94	22.09	16.77
	Paradip#	-	(0.65)	4.22	7.02	4.46	6.99	1.57
	Average	0.27	5.06	7.77	8.49	5.41	8.45	2.96
BPCL	Kochi	3.17	6.87	5.16	6.44	4.27	6.23	2.68
	Mumbai	3.97	6.37	5.36	7.26	4.92	6.85	3.58
	Average	3.62	6.59	5.26	6.85	4.58	6.52	3.10
HPCL	Mumbai	4.88	8.09	6.95	8.35	5.79	6.20	3.33
	Visakh	1.12	5.46	5.51	6.55	4.31	5.69	0.67
	Average	2.84	6.68	6.20	7.40	5.01	5.93	1.87
CPCL	Chennai	1.97	5.27	6.05	6.42	3.70	5.98	2.03
MRPL	Mangalore	(0.64)	5.20	7.75	7.54	4.06	6.29	0.23
NRL	Numaligarh**	16.67	23.68	28.56	31.92	28.11	27.73	25.58
JV refineries								
BORL	Bina	6.10	11.70	11.80	11.70	9.80	13.70	6.20
Private refineries								
RIL	Jamnagar	8.60	10.80	11.00	11.60	9.20	9.90	8.80
NEL@	Vadinar	8.37	10.81	9.14	8.95	6.97	*	*
Singapore		6.36	7.52	5.83	7.23	4.88	6.04	5.00

(P) - Provisional * Not available

** GRM of North East refineries are including excise duty benefit. For GRM excluding excise duty benefit, refer table 4.8;

Commissioned in February, 2016.

@Nayara Energy Limited (formerly Essar Oil Limited)

Source: Indian refineries - published results/ information provided by oil companies

Singapore - Reuters

Table 4.8 : GRM of North East refineries excluding excise duty benefit

								(\$/bbl)
Company	Refinery	2014-15	2015-16	2016-17	2017-18	2018-19	Apr-Sep 2018	Apr-Sep 2019 (P)
IOCL	Guwahati	0.96	1.26	1.12	3.70	0.63	1.51	-0.24
	Digboi	5.42	4.16	7.73	8.27	8.84	10.87	6.83
	Bongaigaon	(6.51)	0.08	6.03	6.22	4.21	8.73	2.25
NRL	Numaligarh	9.46	8.06	8.50	11.43	11.80	12.06	9.63

Source: Information provided by oil companies

Table 4.9 : Distillate yield of PSU refineries

(Distillate % on crude)							
Company	Refinery	2015-16	2016-17	2017-18	2018-19	Apr-Sep 2018	Apr-Sep 2019 (P)
IOCL	Barauni	88.7	85.3	89.0	87.9	86.5	82.6
	Koyali	83.1	81.0	82.5	81.0	80.4	80.0
	Haldia	69.6	66.7	66.9	69.9	70.6	69.8
	Mathura	74.7	73.6	75.4	76.1	76.7	75.8
	Panipat	83.8	84.1	84.9	82.8	83.0	85.2
	Guwahati	80.8	83.5	82.7	81.0	82.3	83.8
	Digboi	69.7	75.3	77.9	75.8	77.0	70.7
	Bongaigaon	84.5	83.8	84.3	84.8	83.4	87.2
	Paradip	-	75.3	79.4	80.8	79.8	80.6
CPCL#	Manali	71.4	71.6	72.3	75.3	74.7	77.5
	CBR	79.3	78.2	79.1	77.3	77.1	0.0
HPCL	Mumbai	76.0	77.6	77.4	77.6	77.0	75.1
	Visakh	75.7	74.0	74.5	74.5	74.2	71.1
BPCL	Mumbai	84.3	86.1	84.3	82.2	84.0	85.6
	Kochi	85.7	85.2	83.9	82.5	83.6	84.9
NRL	Numaligarh	89.9	90.5	86.7	87.1	86.4	85.0
MRPL	Mangalore	76.9	77.3	76.5	76.8	75.0	74.0
PSU oil cos. average		79.9	79.3	79.7	79.6	79.4	79.6

Source: Centre for High Technology

CPCL CBR was under shutdown from April 2019 onwards; (P): Provisional

Table 4.10 : Fuel & Loss

(Million metric tonne)																				
Sl. no.	Company	Refinery	2015-16			2016-17			2017-18			2018-19			Apr-Sep 2018			Apr-Sep 2019 (P)		
			Crude T'put + other inputs	Fuel & Loss		Crude T'put + other inputs	Fuel & Loss		Crude T'put + other inputs	Fuel & Loss		Crude T'put + other inputs	Fuel & Loss		Crude T'put + other inputs	Fuel & Loss		Crude T'put + other inputs	Fuel & Loss	
				Qty	%		Qty	%		Qty	%		Qty	%		Qty	%		Qty	%
1		Barauni	6.6	0.6	8.7	6.6	0.6	9.2	6.0	0.5	9.2	6.9	0.6	9.0	3.3	0.3	9.3	3.3	0.3	8.7
2		Koyali	14.4	1.3	8.8	14.6	1.3	9.0	14.5	1.2	8.6	14.2	1.3	9.0	6.9	0.6	9.1	5.9	0.6	10.1
3		Haldia	7.8	0.7	8.7	7.7	0.7	8.8	7.8	0.7	8.4	8.1	0.7	8.3	4.1	0.3	8.2	4.0	0.4	8.8
4		Mathura	9.3	0.7	7.7	9.7	0.7	7.5	9.8	0.7	7.0	10.2	0.7	6.6	5.1	0.3	6.7	5.4	0.4	6.6
5		Panipat	16.8	1.5	8.8	17.2	1.5	8.4	17.3	1.4	8.1	17.3	1.4	7.9	9.1	0.7	7.9	7.9	0.7	8.3
6	IOCL	Guwahati	1.2	0.1	9.6	1.2	0.1	9.4	1.3	0.1	10.2	1.2	0.1	9.5	0.7	0.1	9.7	0.7	0.1	9.9
7		Digboi	0.6	0.06	10.2	0.6	0.07	11.7	0.7	0.08	10.3	0.8	0.08	10.0	0.4	0.04	9.9	0.4	0.04	11.4
8		Bongaigaon	2.4	0.2	8.5	2.5	0.2	8.3	2.4	0.2	8.7	2.6	0.2	8.2	1.2	0.1	8.3	1.3	0.1	8.2
9		Paradip	1.9	0.5	24.2	8.3	1.3	15.9	12.7	1.4	10.9	14.6	1.4	9.8	6.6	0.7	10.6	7.8	0.7	9.5
		IOCL Total	61.0	5.6		68.4	6.5		72.6	6.4		75.7	6.4		37.4	3.2		36.5	3.2	
10		Mumbai	8.0	0.6	7.8	8.5	0.6	7.2	8.6	0.6	7.2	8.8	0.6	7.0	4.4	0.3	7.1	3.9	0.3	7.0
11	HPCL	Visakh	9.2	0.7	7.7	9.3	0.7	7.3	9.6	0.7	7.1	9.8	0.7	7.3	4.9	0.4	7.3	4.6	0.3	7.1
12		HMEL-Bathinda	10.8	0.7	6.3	10.6	0.7	6.3	8.9	0.6	6.2	12.6	0.7	5.8	6.3	0.4	5.8	5.9	0.3	5.6
		HPCL Total	28.0	2.0		28.4	2.0		27.2	1.9		31.2	2.1		15.6	1.0		14.5	0.9	
13		Mumbai	13.4	0.6	4.4	13.6	0.6	4.4	14.3	0.7	4.6	14.8	0.6	4.0	7.3	0.3	4.2	7.0	0.3	4.3
14		Kochi	10.8	0.6	5.9	12.0	0.7	6.0	14.5	1.1	7.7	16.4	1.3	7.8	8.4	0.6	7.5	8.5	0.7	8.5
15	BPCL	BORL-Bina	6.4	0.5	7.0	6.4	0.6	8.8	6.7	0.7	9.7	5.7	0.6	10.2	2.5	0.3	10.5	3.8	0.4	9.7
16		Numaligarh	2.8	0.3	9.2	3.0	0.3	9.8	3.1	0.3	10.1	3.2	0.3	9.5	1.6	0.1	9.4	1.5	0.1	9.6
		BPCL Total	33.4	1.9		34.9	2.2		38.7	2.7		40.1	2.7		19.7	1.3		20.8	1.5	
17		Manali	9.2	0.9	9.5	9.8	0.9	9.3	10.4	1.0	9.7	10.3	1.1	10.3	5.4	0.6	10.3	5.3	0.5	10.1
18	CPCL	CBR	0.6	0.03	4.4	0.6	0.03	4.6	0.5	0.03	5.0	0.4	0.02	5.1	0.2	0.01	5.6	0.0	0.0	
		CPCL Total	9.8	0.9		10.4	0.9		10.9	1.0		10.8	1.1		5.6	0.6		5.3	0.5	
19		ONGC Tatipaka	0.07	0.001	1.7	0.09	0.003	3.7	0.08	0.004	5.3	0.07	0.003	5.1	0.03	0.001	4.7	0.04	0.003	6.1
20	ONGC	MRPL-Mangalore	15.7	1.5	9.7	16.3	1.6	10.1	16.4	1.7	10.2	16.5	1.7	10.2	7.8	0.8	10.7	6.1	0.6	10.4
		ONGC Total	15.8	1.5		16.3	1.6		16.4	1.7		16.6	1.7		7.8	0.8		6.2	0.6	
21		Jamnagar (DTA)	35.1	2.6	7.4	35.9	2.5	6.9	36.4	2.7	7.4	37.0	2.8	7.5	18.8	1.3	6.7	18.7	1.7	8.9
22	RIL	Jamnagar (SEZ)	44.2	3.4	7.8	44.8	3.3	7.5	47.8	3.7	7.8	48.9	3.6	7.4	24.3	1.8	7.6	26.1	2.4	9.2
23	NEL*	Vadinar	19.4	1.1	5.7	21.3	1.2	5.5	21.0	1.2	5.7	19.2	1.1	6.0	10.7	0.6	5.8	10.6	0.6	5.8
		Total	246.8	19.1		260.4	20.2		271.0	21.3		279.6	21.6		139.9	10.7		138.7	11.5	

* Nayara Energy Limited (formerly Essar Oil Limited) *CPCL CBR was under shutdown during April-September 2019

Source: Oil companies; (P): Provisional

Table 4.11 : Specific energy consumption of PSU refineries

(MBTU/Bbl/NRGF)							
Company	Refinery	2015-16	2016-17	2017-18	2018-19	Apr-Sep 2018	Apr-Sep 2019 (P)
IOCL	Barauni	81.0	80.7	77.7	77.9	81.1	79.6
	Koyali	75.8	75.2	72.4	75.3	78.2	83.1
	Haldia	79.8	83.0	80.8	76.6	76.1	79.0
	Mathura	73.4	72.2	68.3	63.9	65.5	65.7
	Panipat	70.1	64.9	63.2	64.1	61.8	64.6
	Guwahati	121.9	113.8	108.0	112.3	102.2	114.2
	Digboi	112.4	114.3	105.5	101.8	101.8	110.8
	Bongaigaon	91.3	90.2	91.7	88.6	88.9	89.5
	Paradip		117.8	72.8	66.8	71.4	65.1
CPCL	Manali	95.8	92.5	88.6	83.0	82.0	83.3
	CBR	113.1	117.8	123.7	118.1	**	**
HPCL	Mumbai	89.3	85.7	84.4	82.8	84.5	86.5
	Visakh	80.7	78.1	77.3	77.3	77.1	81.3
BPCL	Mumbai	74.7	70.6	66.7	64.7	64.6	63.9
	Kochi	77.6	85.8	79.2	71.6	71.1	70.5
NRL	Numaligarh	71.1	72.3	64.7	65.9	69.5	63.8
MRPL	Mangalore	80.3	79.6	76.7	74.2	76.2	77.1
	PSU average*	79.2	81.2	75.1	72.7	73.5	73.6

Source: MBN values are as per New MBN methodology with normalisation for grid power import and BS-IV/VI production from 2015-16 onwards

* PSU average is excluding CPCL-CBR; (P): Provisional

Table 4.12 : Import / export of crude oil and petroleum products

Import / export	Crude oil & petroleum products	2015-16			2016-17			2017-18			2018-19			Apr-Sep 2018			Apr-Sep 2019 (P)		
		Quantity		Value	Quantity		Value	Quantity		Value	Quantity		Value	Quantity		Value	Quantity		Value
		Million tonne	US\$ (Billion)	Rs. (Crores)	Million tonne	US\$ (Billion)	Rs. (Crores)	Million tonne	US\$ (Billion)	Rs. (Crores)	Million tonne	US\$ (Billion)	Rs. (Crores)	Million tonne	US\$ (Billion)	Rs. (Crores)	Million tonne	US\$ (Billion)	Rs. (Crores)
I M P O R T	Crude oil	202.9	64.0	416579	213.9	70.2	470159	220.4	87.8	566450	226.5	111.9	783183	112.9	58.6	403880	111.4	52.5	366742
	of which, PSU/JVs	121.2	39.7	259464	128.3	44.0	294050	133.0	54.3	350612	142.9	71.9	504524	70.8	37.6	261451	68.8	33.1	231238
	Private	81.6	24.3	157115	85.6	26.2	176109	87.4	33.5	215839	83.6	40.0	278659	42.1	20.9	142429	42.6	19.4	135505
	Products																		
	LPG	9.0	3.9	25778	11.1	4.8	32124	11.4	5.8	37875	13.2	7.2	49939	6.3	3.6	24739	6.9	3.1	21664
	Petrol	1.0	0.6	4207	0.5	0.2	1617	0.2	0.1	581	0.7	0.4	3104	0.2	0.2	1301	1.3	0.8	5690
	Naphtha	2.9	1.5	9581	2.8	1.2	8374	2.2	1.3	8161	2.1	1.4	9665	1.1	0.8	5285	0.9	0.5	3595
	Aviation Turbine Fuel	0.3	0.1	889	0.3	0.2	1109	0.3	0.2	1159	0.3	0.2	1392	0.2	0.1	853	0.1	0.1	451
	Kerosene	0.04	0.02	158	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0
	Diesel	0.2	0.1	605	1.0	0.4	2959	1.4	0.7	4269	0.6	0.4	2486	0.2	0.1	916	1.1	0.6	4494
	Lubes/LOBS	2.3	1.4	9478	2.1	1.3	8625	2.5	1.9	12075	2.5	1.9	13349	1.1	0.9	6185	1.3	0.9	6484
	Fuel Oil	1.2	0.4	2380	0.9	0.3	1848	1.2	0.5	3231	1.4	0.7	4782	0.9	0.5	3102	1.2	0.5	3804
	Bitumen	0.9	0.3	1832	1.0	0.2	1638	1.0	0.3	1902	0.9	0.3	2149	0.4	0.1	899	0.6	0.2	1465
	Petcoke	10.0	0.9	5633	14.4	1.2	7929	12.8	1.7	11100	7.9	1.5	10350	3.6	0.7	4925	5.6	0.8	5779
	Others**	1.7	0.7	4821	2.2	0.8	5342	2.6	1.2	8020	3.9	2.4	16449	1.8	1.2	8269	1.8	1.0	6966
Total product import	29.5	10.0	65361	36.3	10.6	71566	35.5	13.6	88374	33.3	16.3	113665	15.9	8.3	56475	20.8	8.6	60392	
of which, PSU/JVs	10.1	4.6	30367	12.5	5.5	36691	12.8	6.5	42305	14.6	8.1	56178	6.9	4.0	27578	9.4	4.6	32363	
Private	19.4	5.3	34994	23.7	5.2	34875	22.7	7.1	46069	18.8	8.3	57487	9.0	4.3	28897	11.4	4.0	28030	
Total import (crude oil + product)	232.3	73.9	481940	250.2	80.8	541725	255.9	101.4	654824	259.8	128.3	896848	128.8	66.9	460356	132.2	61.1	427135	
E X P O R T	Products																		
	LPG	0.2	0.1	785	0.3	0.2	1168	0.4	0.2	1501	0.4	0.3	1976	0.2	0.1	903	0.2	0.1	892
	Petrol	16.8	9.1	59575	15.4	7.9	52920	14.0	8.5	54580	12.9	8.6	60419	6.3	4.6	31817	6.4	4.2	29113
	Naphtha	7.1	3.1	20057	8.7	3.7	24616	9.0	4.5	29075	7.0	4.1	28893	3.8	2.4	16816	4.0	2.0	14155
	Aviation Turbine Fuel	5.7	2.4	16007	7.3	3.3	22294	7.2	3.9	25348	7.4	4.9	34030	3.7	2.6	17521	3.4	2.1	14682
	Kerosene	0.01	0.01	35	0.02	0.01	54	0.02	0.01	68	0.02	0.01	98	0.01	0.01	50	0.01	0.01	56
	Diesel	24.0	10.2	66492	27.30	11.9	79857	29.7	15.4	99454	27.8	17.6	123519	14.1	9.3	64140	14.8	8.7	60869
	LDO	0.0	0.0	0	0.2	0.1	399	0.02	0.01	37	0.1	0.05	364	0.0	0.0	0	0.0	0.0	0
	Lubes/LOBS	0.02	0.02	127	0.01	0.02	104	0.01	0.02	118	0.01	0.02	106	0.003	0.01	45	0.004	0.01	46
	Fuel Oil	2.8	0.7	4471	2.2	0.6	3930	2.5	0.8	5291	2.2	0.9	6537	1.0	0.4	3004	1.0	0.4	2533
	Bitumen	0.1	0.03	176	0.04	0.01	37	0.1	0.02	119	0.02	0.01	72	0.01	0.005	33	0.02	0.01	51
	Petcoke / CBFS	0.8	0.1	750	0.7	0.1	804	0.6	0.1	687	1.1	0.5	3255	0.6	0.3	1798	0.4	0.2	1099
	Others***	2.9	1.3	8304	3.3	1.3	8710	3.4	1.4	9110	2.1	1.2	8429	1.0	0.6	4191	1.4	0.5	3720
	Total product export	60.5	27.1	176780	65.5	29.0	194893	66.8	34.9	225388	61.1	38.2	267697	30.7	20.4	140319	31.6	18.2	127216
	of which, PSU/JVs	10.5	4.1	27072	12.6	5.2	35102	15.0	7.4	48100	13.4	8.1	56415	6.6	4.2	29081	6.2	3.4	23666
Private	50.1	22.9	149708	53.0	23.8	159791	51.8	27.5	177288	47.7	30.2	211282	24.1	16.2	111238	25.4	14.8	103551	
Net import	171.8	46.9	305160	184.7	51.8	346832	189.1	66.5	429436	198.8	90.0	629152	98.1	46.5	320037	100.6	43.0	299919	
Net product export	31.1	17.1	111419	29.2	18.4	123327	31.4	21.3	137014	27.7	21.9	154031	14.8	12.1	83843	10.8	9.5	66824	

Source: Oil companies & DGCIS, (P) : Provisional

Note:

* Import does not include LNG imports

** Other imports include Paraffin Wax, Petroleum Jelly, Aviation Gas, MTBE, Reformate etc.

*** Other exports include VGO, Benzene, Hexane, MTO, Sulphur etc.

"Others" in exports include RIL-SEZ exports of "Others" with unspecified heavy ends

- Crude oil imports decreased by 1.3% during April - September 2019 as compared to April - September 2018.
- Imports due to deficit in production viz. LPG and Lubes/LOBS accounted for 39.6% share of total POL products import during April - September 2019 as compared to 46.7% during April - September 2018.
- Imports of naphtha and FO were done for commercial and technical considerations and accounted for 10.2% share of total POL products import during April - September 2019 as compared to 12.9% during April - September 2018.
- MS (1.3 MMT) and HSD (1.1 MMT) import during April - September 2019 was done to meet the demand supply gap in domestic market and to meet regional specific deficit due to refinery shutdowns.
- Increase of 3% was recorded in POL products export during April - September 2019 as compared to April - September 2018 due to increase in exports of all products except ATF, fuel oil and petcoke/CBFS.

Table 4.13 : Exchange rates of Indian rupee (₹)

Year	US dollar (\$)	British pound (£)	Euro (€)	Japanese yen (¥)
Indian rupee (₹) / foreign currency				
2002-03	48.41	74.84	48.07	0.40
2003-04	45.92	77.74	54.01	0.41
2004-05	44.95	82.95	56.55	0.42
2005-06	44.28	79.02	53.88	0.39
2006-07	45.29	85.72	58.11	0.39
2007-08	40.24	80.80	56.99	0.35
2008-09	45.91	78.45	65.14	0.46
2009-10	47.42	75.88	67.08	0.51
2010-11	45.58	70.88	60.21	0.53
2011-12	47.95	76.40	65.90	0.61
2012-13	54.45	86.02	70.06	0.66
2013-14	60.50	96.23	81.14	0.60
2014-15	61.15	98.56	77.47	0.56
2015-16	65.46	98.76	72.31	0.55
2016-17	67.09	87.71	73.61	0.62
2017-18	64.45	85.47	75.42	0.58
2018-19	69.89	91.74	80.93	0.63
2019-20 (upto 31.10.2019)	70.10	88.27	78.24	0.65
2019 : Month wise				
January	70.73	91.16	80.83	0.65
February	71.22	92.67	80.85	0.65
March	69.48	91.55	78.51	0.63
April	69.43	90.53	78.03	0.62
May	69.77	89.65	78.05	0.63
June	69.44	87.99	78.41	0.64
July	68.81	85.87	77.23	0.64
August	71.15	86.49	79.12	0.67
September	71.33	88.14	78.54	0.66
October	71.04	89.74	78.50	0.66

Source: Reserve Bank of India (RBI)/ Financial Benchmark India Private Limited (FBIL) website.

Note : The rates are average for the period.



Chapter 5

Major Pipelines in India



Map of Pipeline Network in India



Note: Pipelines shown are indicative only.

Table 5.1 : Gas pipeline network as on 01.10.2019

Network/Region	Entity	Length (Kms)	Design capacity (mmscmd)	Pipeline size	Average flow 2018-19 (P) (mmscmd)	% Capacity utilisation 2018-19	Average flow Apr-Sep 2019 (mmscmd)	% Capacity utilisation Apr-Sep 2019
Hazira-Vijaipur-Jagdishpur Pipeline/ Gas rehabilitation and expansion project pipeline/Dahej-Vijaipur Pipeline & spur/ Vijaipur-Dadri Pipeline	GAIL	4554	53	36"	28.3	53%		
DVPL-GREP upgradation (DVPL-II & VDPL)	GAIL	1385	54	48"	38.7	72%	67.95	48%
Chhainsa-Jhajjar-Hissar Pipeline (CJPL) including spur lines *	GAIL	310	5	36" /16"	1.0	20%		
Dadri- Bawana-Nangal Pipeline (DBPL)	GAIL	852	31	36"/30"/ 24"/18"	6.4	21%		
Dahej-Uran-Panvel Pipeline (DUPL/ DPPL) including spur lines	GAIL	928	20	30"/18"	14.0	70%	16.4	53%
Dabhol-Bengaluru Pipeline (Including spur)	GAIL	48	6	16"/4"	1.7	29%	2.7	45%
Kochi-Koottanad-Bengaluru- Mangalore (Phase-1)	GAIL	1116	16	36"/4"	1.3	8%	0.3	2%
Tripura (Agartala)	GAIL	60	2	12"	1.3	56%	0.9	37%
Gujarat	GAIL	685	9	24"/16"	4.1	45%	2.3	26%
Rajasthan	GAIL	151	2	12"	1.1	47%	0.1	2%
Mumbai (Uran-Thal-Usar & Trombay-RCF)	GAIL	131	7	26"	6.4	91%	5.1	72%
KG Basin	GAIL	884	16	18"	5.2	32%	4.7	29%
Cauvery Basin	GAIL	306	9	18"	3.4	39%	2.7	31%
JHBDPL	GAIL	750	16	36"/24"/18"/ 12"/8"			0.02	0.1%
East- West Pipeline	PIL	1470	80	48"	20.0	25%	20.2#	26%
Shahdol-Phulpur Pipeline	RGPL	304	4	16"	1	26%	0.9	25%
GSPL network	GSPL	2692	43	Assorted	34.6	80%		
Assam network [^]	AGCL	215	5	Assorted	3.7	80%	3.4	75%
Dadri-Panipat	IOCL	140	10	30"	5.0	54%	4.8	52%
Total		16981	387					

Source: Pipeline operating companies

Note:

* Capacity / throughput of CJHPL and DBPL pipelines are not included in total capacity/throughput, as these are extension of DVPL-II / VDPL.

[^]Excludes CGD pipeline network; # upto August 2019

Dedicated pipeline length of GAIL's & AGCL's network is included in lengths of various pipelines.

Table 5.2 : Existing major crude oil pipelines in India

Type of Pipeline -Onshore/Offshore	Name of the pipeline	Owner	Length (KM)	Capacity (MMT)	Throughput (MMT)	Percentage utilisation during
			01.10.2019	01.10.2019	Apr-Sep 2019 (P)	Apr-Sep 2019 (P)
Onshore	CTF (Central Tank Farm) Kalol to CTF Nawagam - New (New line commissioned in Aug'2010)	ONGC	63	3.1	0.6	18.4
Onshore	Nawagam-Koyali (18" line) New		80	5.4	1.8	33.3
Onshore	Nawagam-Koyali (14" line) (Old)		78	3.3	0.0	0.0
Onshore	MHN-NGM (Mehsana-Nawagam) trunk line - New (New crude oil trunk line commissioned. Under operation since Dec'2010)		77	2.3	1.0	46.2
Onshore	CTF (Central Tank Farm), Ankleshwar to Koyali oil pipeline (AKCL-Ankleshwar Koyali Crude Line)		95	2.2	0.4	20.3
Onshore	CTF (Central Tank Farm), Ankleshwar to CPF (Central Processing Facility), Gandhar		44	0.4	0.0	0.0
Onshore	CPF (Central Processing Facility), Gandhar to Saraswani 'T' point		57	1.8	0.4	21.1
Onshore	Akholjuni- Koyali oil pipe line (Commissioned in July 2010). Akholjuni to Laxmipura T' point		66	0.5	0.1	19.9
Onshore	Lakwa-Moran oil line (New)		15	1.5	0.1	9.5
Onshore	Lakwa-Moran oil line (Old)		18	1.5	0.0	0.0
Onshore	Geleki-Jorhat oil line		49	1.5	0.1	4.8
Onshore	Geleki-Jorhat oil line (New)		48	1.5	0.2	11.4
Onshore	Borholla- Jorhat oil line		43	0.6	0.0	0.0
Onshore	Borholla- Jorhat new TPL (New)		43	0.6	0.1	18.2
Onshore	NRM (Narimanam) to CPCL (Chennai Petroleum Corporation Limited)		5	0.7	0.2	27.8
Onshore	KSP-WGGS to TPK Refinery (Kesnapalli-West-Group Gathering Station to Tatipaka)		14	0.1	0.01	7.6
Onshore	GMAA EPT (Gopavaram Early Production Terminal) to S. Yanam Unloading Terminal (3.5 Km long and 4"). New line commissioned on 28.07.10		4	0.1	0.02	19.5
Offshore	Mumbai High - Uran - Trunk (MUT) 30" pipeline		204	15.6	4.1	26.2
Offshore	Heera - Uran - Trunk (HUT) 24" pipeline		81	11.5	1.5	13.4
Offshore	Bombay-Uran Trunk (BUT) 30" pipeline		203	6.4	0.04	0.6
	Sub total ONGC	1283	60.6	10.7	17.7	
Onshore	Salaya-Mathura pipeline (SMPL)	IOCL	2646	25.0	12.3	49.4
Onshore	Paradip-Haldia-Barauni pipeline (PHBPL)		1355	15.2	8.6	56.8
Onshore	Mundra-Panipat pipeline		1194	8.4	3.3	39.2
Offshore	Salaya-Mathura Pipeline (Offshore segment)		14	-	0.0	
Offshore	Paradip-Haldia-Barauni Pipeline (Offshore segment)		92	-	0.0	
	Sub total IOCL	5301	48.6	24.3	49.9	
Onshore	Duliajan-Digboi-Bongaigaon-Barauni pipeline	OIL	1193	9.0	3.2	36.0
Onshore	Mangla-Bhogat pipeline	CAIRN	660	8.7	3.5	40.5
Offshore	Bhogat Marine	CAIRN	28	2.0	0.5	25.5
	Sub total CAIRN	688	10.7	4.0	37.7	
Onshore	Mundra- Bathinda pipeline	HMPL	1017	11.3	5.8	51.6
Onshore	Vadinar-Bina pipeline	BORL	937	7.8	3.8	48.3
	Total Crude pipelines		10419	147.9	51.8	35.0

Note:

Source: Oil companies (P): Provisional

Table 5.3 : Existing major POL pipelines in India

Type of Pipeline	Name of the pipeline	Owner	Length (KM)	Capacity (MMT)	Throughput (MMT)	Percentage utilisation during
			01.10.2019	01.10.2019	Apr-Sep 2019 (P)	Apr-Sep 2019 (P)
Petroleum Products Pipelines						
Onshore	Barauni - Kanpur pipeline (2)		1125	3.5	1.3	38.0
Onshore	Guwahati -Siliguri pipeline		435	1.4	1.1	75.2
Onshore	Haldia-Barauni pipeline		526	1.3	0.9	73.3
Onshore	Haldia-Mourigram-Rajbandh pipeline		277	1.4	1.1	84.7
Onshore	Koyali-Ahmedabad pipeline		79	1.1	0.1	6.0
Onshore	Koyali-Sanganer pipeline (Incl. JPNPL) (3)		1644	5.0	2.3	45.9
Onshore	Koyali-Ratlam pipeline		265	2.0	0.7	36.7
Onshore	Koyali-Dahej pipeline		197	2.6	0.3	11.9
Onshore	Mathura-Tundla pipeline		56	1.2	0.2	15.6
Onshore	Mathura-Bharatpur pipeline		21		0.1	
Onshore	Mathura-Delhi pipeline		147	3.7	1.6	43.0
Onshore	Panipat-Amabala-Jalandhar (Including Kurukshehra-Roorkee-Najibabad branch line) (1)	IOCL	495	3.5	1.8	52.2
Onshore	Panipat-Delhi (Including Sonapat-Meerut branch line) pipeline		189			21.8
Onshore	Panipat Bijwasan ATF pipeline		111	3.0	0.7	
Onshore	Panipat-Bathinda pipeline		219	1.5	0.8	53.8
Onshore	Panipat-Rewari pipeline		155	2.1	0.8	37.4
Onshore	Chennai-Trichy-Madurai pipeline		683	2.3	1.5	66.7
Onshore	Chennai - Meenambakkam ATF pipeline		95	0.2	0.2	89.8
Onshore	Chennai-Bengaluru pipeline		290	2.5	1.1	43.0
Onshore	Devangonhi - Devanhalli pipeline		36	0.7	0.3	46.4
Onshore	Paradip Raipur Ranchi pipeline(PRRPL)		1073	5.0	1.9	38.9
Onshore	Kolkata ATF pipeline		27	0.2	0.1	46.5
	Sub total IOCL		8145	44.0	18.9	42.9
Onshore	Mumbai-Manmad-Bijwasan pipeline (MMBPL)		1389	6.0	3.3	54.4
Onshore	Bina-Kota pipeline (BKPL)		259	4.4	2.0	44.9
Onshore	ATF P/L Mumbai Refinery (MR)-Santacruz		15	1.4	0.3	24.4
Onshore	ATF P/L Kochi Refinery (KR)-Kochi Airport	BPCL	34	0.6	0.2	40.9
Onshore	Kota - Jobner branch pipeline(1)		211	1.7	0.3	
Onshore	Mumbai Refinery- Wadilube Pipeline		12	1.3	0.1	9.5
Onshore	Cochin-Coimbatore-Karur (CCK) pipeline (2)		293	3.3	2.0	61.1
	Sub total BPCL		2213	18.7	8.3	44.3
Onshore	Mumbai-Pune-Solapur pipeline		508	4.3	2.1	48.0
Onshore	Vizag-Vijaywada-Secunderabad pipeline (5)		572	7.7	2.9	37.3
Onshore	Mundra-Delhi pipeline (1)		1054	5.0	3.1	62.9
Onshore	Ramanmandi-Bahadurgarh pipeline (2)(4)		243	7.1	2.6	37.3
Onshore	Ramanmandi-Bathinda pipeline		30	2.1	0.6	26.3
Onshore	Awa-Salawas pipeline	HPCL	93			
Onshore	Bahadurgarh-Tikrikalan pipeline		14			
Onshore	Rewari- Kanpur Pipeline		443			
Onshore	ATF pipeline from Mumbai Refinery to Mumbai Airport		20	1.1	0.2	18.2
Onshore	Black Oil Pipeline (BOPL)		22	1.5	0.3	18.3
Onshore	Lube Oil Pipeline : Trombay to Wadibundar (3)		17	1.0	0.2	23.7
	Sub total HPCL		3015	29.8	10.4	34.8
Onshore	Mangalore-Hassan-Bengaluru (MHB) pipeline (1)	Petronet MHB	363	5.6	1.4	25.7
Onshore	Numaligarh-Siliguri pipeline	OIL	654	1.7	0.8	48.8
	Total Petroleum product pipelines (w/o LPG pipelines)		14390	99.8	39.8	39.9
LPG Pipelines						
Onshore	Panipat-Jalandhar pipeline	IOCL	280	0.7	0.3	39.5
Onshore	Paradip Haldia Durgapur pipeline (4)		679	1.3	0.5	39.8
	Sub total IOCL		959	2.0	0.8	39.7
Onshore/offshore	Mumbai-Uran pipeline	BPCL	28	0.8	0.2	19.1
Onshore	Jamnagar-Loni pipeline	GAIL	1414	2.5	1.3	50.5
Onshore	Vizag-Secunderabad pipeline		618	1.3	0.6	42.2
	Sub total GAIL		2032	3.8	1.8	47.6
Onshore	Mangalore-Hassan-Mysore-Solur LPG	HPCL	356	1.9	0.5	23.4
	Total LPG pipelines		3375	8.5	3.2	37.6
	Total POL pipelines		17765	108.4	43.0	39.7

Source: Oil Companies (P): Provisional

Note: IOCL (1) PAJPL - Branch line to Una commissioned on 7th June 2019. (Length 61.058 Km)

(2) BKPL - Branch line Patna-Motihari commissioned on 17th July 2019 and Motihari-Amlekhguni commissioned on 19th July 2019 (length 268 Km). 36 Km of Pipeline lies in Nepal.

(3) KSPL - Capacity enhanced to 5 MMTPA wef 7th August 2019.

(4) PHDPL - Pipeline from Haldia Refinery to PHDPL Haldia commissioned on 14th September 2019 (Length 6.1 Km)

BPCL

(1) Kota-Jobner pipeline is a branch pipeline of Mumbai-Manmad-Bijwasan pipeline with annual capacity of 1.7 MMTPA. Throughput of this pipeline is included in MMBPL & BKPL pipelines.

(2) Petronet CCK was merged with BPCL w.e.f 1st June 2018

HPCL

(1) Thruput of Mundra-Delhi pipeline is including thruputs (5.1 MMT) of branchlines viz. Awa Salawas Pipeline & Rewari Kanpur pipeline and reverse pumping (1.6 MMT) from Bahadurgarh to Rewari.

(2) Thruput of Ramanmandi Bahadurgarh pipeline is including thruput (4,189 MMT) of branchlines viz. Bahadurgarh-Tikrikalan Pipeline & Rewari-Kanpur pipeline.

(3) Lube Oil pipeline and ATF pipeline from Mumbai Refinery to Mazgaon Terminal and Mumbai Airport are speciality product pipelines.

(4) Capacity of Ramanmandi-Bahadurgarh Pipeline augmented from 4.71 MMTPA to 7.11 MMTPA.

(5) Capacity of Visakh-Vijaywada-Secunderabad Pipeline augmented from 5.38 MMTPA to 7.70 MMTPA.

Petronet MHB

(1) Petronet MHB JV- ONGC & HPCL 26% each, Petronet- 12%, Public- 36%.



Chapter 6

Sales

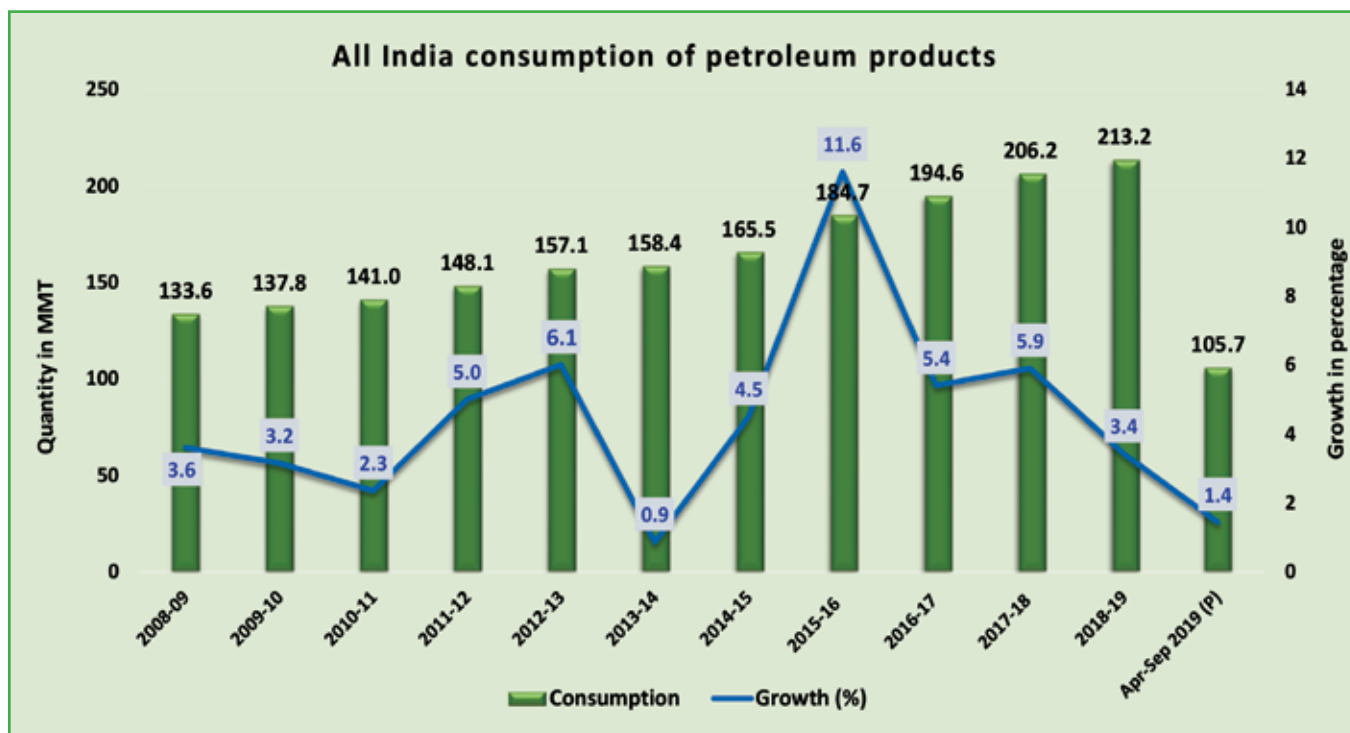


Table 6.1 : Consumption of petroleum products

(Million metric tonnes)													
Products	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Apr-Sep 2018	Apr-Sep 2019 (P)
LPG	12.2	13.1	14.3	15.3	15.6	16.3	18.0	19.6	21.6	23.3	24.9	12.1	12.5
MS	11.3	12.8	14.2	15.0	15.7	17.1	19.1	21.8	23.8	26.2	28.3	14.0	15.3
Naphtha	13.9	10.1	10.7	11.2	12.3	11.3	11.1	13.3	13.2	12.9	14.1	6.8	6.1
ATF	4.4	4.6	5.1	5.5	5.3	5.5	5.7	6.3	7.0	7.6	8.3	4.1	4.0
SKO	9.3	9.3	8.9	8.2	7.5	7.2	7.1	6.8	5.4	3.8	3.5	1.8	1.4
HSD	51.7	56.2	60.1	64.8	69.1	68.4	69.4	74.6	76.0	81.1	83.5	40.9	41.3
LDO	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.3	0.3
Lubes	2.0	2.5	2.4	2.6	3.2	3.3	3.3	3.6	3.5	3.9	3.7	1.7	1.8
FO/LSHS	12.6	11.6	10.8	9.3	7.7	6.2	6.0	6.6	7.2	6.7	6.6	3.3	3.1
Bitumen	4.7	4.9	4.5	4.6	4.7	5.0	5.1	5.9	5.9	6.1	6.7	2.8	3.0
Petcoke	6.2	6.6	5.0	6.1	10.1	11.8	14.6	19.3	24.0	25.7	21.3	10.9	10.9
Others	4.7	5.4	4.6	4.9	5.5	6.0	5.9	6.4	6.6	8.3	11.7	5.6	6.0
All India	133.6	137.8	141.0	148.1	157.1	158.4	165.5	184.7	194.6	206.2	213.2	104.2	105.7
Growth (%)	3.6	3.2	2.3	5.0	6.1	0.9	4.5	11.6	5.4	5.9	3.4	3.5	1.4

(Oil company sales+Private imports+SEZ sales to DTA= Consumption)

Source: Oil Companies, Directorate General of Commercial Intelligence and Statistics (DGCIS) & online SEZ data (included from 2017-18 onwards).



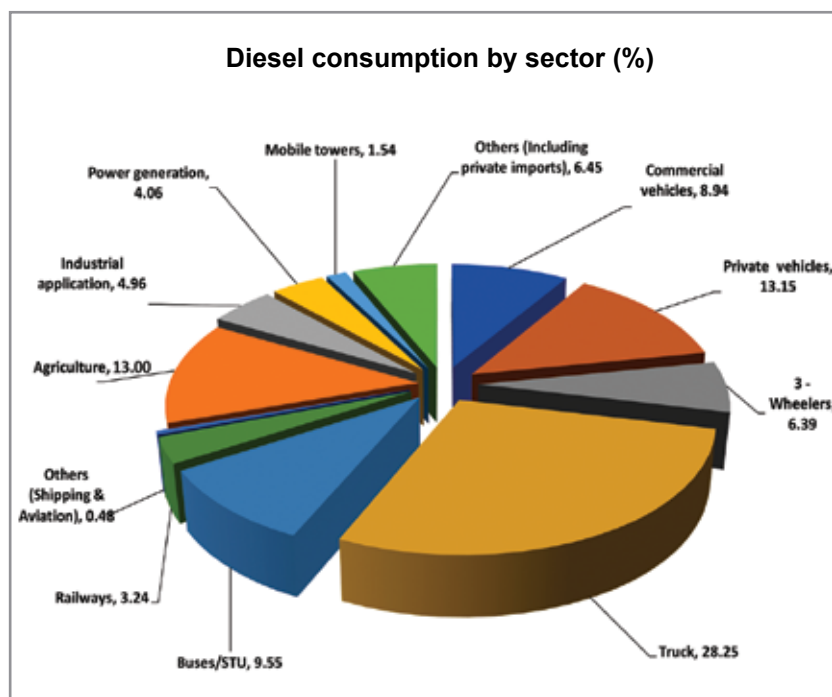
The consumption of petroleum products has gone up from 133.6 MMT in 2008-09 to 213.2 MMT in 2018-19. The compounded annual growth rate (CAGR) of total POL consumption in the last decade has been 4.8%. The CAGR of petcoke (13.2%) consumption has been highest among POL products in the last decade followed by MS (9.7%), LPG (7.4%), ATF (6.5%), HSD (4.9%), bitumen (3.5%), LDO (0.8%) and naphtha (0.2%). CAGR of products grouped under "others" category has been 9.5%. FO/LSHS and SKO recorded contraction in consumption in the last decade with negative CAGR of -6.3% & -9.4% respectively. Half yearly consumption went up by 1.4% and rose to 105.7 MMT in 2019-20 as compared to 104.2 MMT during same period in 2018-19.

Table 6.2 : Consumption growth of petroleum products

(Growth in percentage)												
Products	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Apr-Sep 2018	Apr-Sep 2019 (P)
LPG	7.7	9.1	6.8	2.0	4.4	10.5	9.0	10.1	8.0	6.7	7.2	4.1
MS	13.9	10.7	5.6	5.0	8.8	11.4	14.5	8.8	10.1	8.1	7.5	9.1
Naphtha	-27.1	5.3	5.1	9.5	-8.0	-2.0	19.8	-0.2	-2.7	9.6	13.0	-10.1
ATF	4.6	9.8	9.0	-4.8	4.4	4.0	9.4	11.8	9.1	8.7	11.6	-3.2
SKO	0.0	-4.0	-7.8	-8.8	-4.5	-1.1	-3.7	-20.9	-28.8	-10.0	-10.1	-22.4
HSD	8.8	6.8	7.8	6.7	-1.0	1.5	7.5	1.8	6.6	3.0	3.3	1.1
LDO	-17.2	-0.4	-8.9	-4.0	-3.1	-5.4	11.5	10.3	16.7	14.2	24.2	16.0
Lubes	26.9	-4.3	8.4	21.4	3.4	0.1	7.9	-2.8	11.9	-5.6	0.1	6.9
FO/LSHS	-7.6	-7.2	-13.7	-17.7	-18.6	-4.4	11.3	7.8	-6.0	-2.3	-4.8	-5.9
Bitumen	3.9	-8.0	2.2	0.8	7.1	1.3	17.1	0.0	2.5	10.2	18.0	5.0
Petcoke	6.8	-24.4	23.2	65.1	16.0	23.8	32.6	24.2	7.1	-16.8	-20.3	0.2
Others	13.7	-15.4	7.8	11.9	8.1	-1.4	8.2	3.8	26.5	40.6	48.9	6.7
All India	3.2	2.3	5.0	6.1	0.9	4.5	11.6	5.4	5.9	3.4	3.5	1.4

End-use analysis of HSD sales (as of 2012-13)

Sl. no.	End-use sectors	% of total sales *
(I)	(II)	(III)
1	Transport, of which	70.00
a	Commercial vehicles	8.94
b	Private vehicles	13.15
c	3 - Wheelers	6.39
d	Truck	28.25
e	Buses/STU	9.55
f	Railways	3.24
g	Others (Shipping & Aviation)	0.48
2	Agriculture	13.00
3	Industrial application	4.96
4	Power generation	4.06
5	Mobile towers	1.54
6	Others (Including private imports)	6.45
	Total	100.0



* Figures include consumption through retail & direct imports. End use sector wise break up as per PPAC survey and direct sales as reported by oil companies for the year 2012-13.

Table 6.3 : State-wise sales of selected petroleum products : Apr-Sep 2019 (P)

(Figures in thousand metric tonnes)										
State/UT	LPG		MS		SKO		HSD		Total (All products)*	
	Sales	Per capita sales (Kg)	Sales	Per capita sales (Kg)	Sales	Per capita sales (Kg)	Sales	Per capita sales (Kg)	Total sales	Per capita sales (Kg)
Chandigarh	25.9	49.1	66.5	126.0	0.01	0.02	101.8	193.0	221.6	420.2
Delhi	373.5	44.6	468.9	56.0	0.4	0.05	448.9	53.6	2354.5	281.1
Haryana	374.6	29.6	539.4	42.6	0.9	0.1	2434.4	192.0	4997.6	394.2
Himachal Pradesh	87.3	25.5	123.1	35.9	5.3	1.5	359.7	104.9	893.1	260.5
Jammu and Kashmir	100.5	16.0	158.0	25.2	64.7	10.3	373.1	59.5	805.1	128.3
Punjab	431.7	31.2	498.5	36.0	1.0	0.1	1654.3	119.4	3553.9	256.6
Rajasthan	647.6	18.9	860.8	25.1	9.7	0.3	2650.4	77.2	5275.1	153.7
Uttar Pradesh	1670.8	16.7	1748.3	17.5	272.5	2.7	4699.5	47.1	9204.3	92.2
Uttarakhand	147.0	29.1	171.7	34.0	1.9	0.4	382.4	75.6	859.8	170.0
SUB TOTAL NORTH	3858.9	20.9	4635.3	25.2	356.4	1.9	13104.5	71.1	28165.0	152.8
Andaman & Nicobar Islands	5.7	30.1	9.1	48.1	1.2	6.3	76.5	402.7	104.7	551.3
Bihar	672.6	13.0	445.7	8.6	103.8	2.0	1213.3	23.4	2702.5	52.1
Jharkhand	183.5	11.1	270.3	16.4	44.6	2.7	977.5	59.3	1712.6	103.9
Odisha	266.4	12.7	422.9	20.2	86.9	4.1	1298.7	61.9	2966.9	141.5
West Bengal	880.1	19.3	499.9	10.9	271.6	5.9	1697.3	37.2	4694.7	102.8
SUB TOTAL EAST	2008.3	14.9	1647.9	12.2	508.2	3.8	5263.3	38.9	12181.4	90.1
Arunachal Pradesh	11.3	16.3	25.3	36.6	4.5	6.5	67.9	98.3	113.7	164.5
Assam	225.2	14.4	226.7	14.5	77.2	5.0	494.9	31.8	1364.4	87.5
Manipur	21.1	15.5	34.7	25.5	5.6	4.1	56.7	41.7	126.7	93.1
Meghalaya	13.5	9.1	50.5	34.1	7.3	4.9	167.8	113.2	241.3	162.8
Mizoram	12.5	22.8	15.5	28.3	1.6	2.9	33.5	61.4	65.8	120.5
Nagaland	11.8	11.9	19.4	19.5	3.6	3.7	39.8	40.2	80.4	81.2
Sikkim	8.2	27.1	10.5	34.5	4.1	13.5	39.6	130.5	65.5	215.4
Tripura	25.9	14.1	28.7	15.7	10.6	5.8	39.7	21.6	111.6	60.8
SUB TOTAL NORTH EAST	329.4	14.5	411.2	18.0	114.6	5.0	940.0	41.2	2169.3	95.2
Chhattisgarh	139.7	10.9	312.3	24.5	29.7	2.3	831.9	65.1	1879.5	147.2
Dadra & Nagar Haveli	9.6	56.2	10.3	59.9	0.0	-	73.6	429.2	175.8	1025.6
Daman & Diu	4.8	39.7	9.8	80.8	0.1	0.9	44.1	363.4	83.6	688.4
Goa	34.3	47.1	91.0	124.8	0.4	0.5	150.4	206.4	376.7	516.9
Gujarat	547.6	18.1	1041.0	34.5	63.5	2.1	2697.7	89.4	9917.1	328.5
Madhya Pradesh	511.6	14.1	754.2	20.8	105.2	2.9	1848.1	50.9	3931.7	108.3
Maharashtra	1480.9	26.4	1743.8	31.0	37.0	0.7	4673.9	83.2	10123.6	180.2
SUB TOTAL WEST	2728.5	20.0	3962.3	29.0	235.9	1.7	10319.8	75.6	26488.2	194.1
Andhra Pradesh	565.7	22.9	628.7	25.5	0.5	0.02	1920.0	77.8	3831.8	155.2
Karnataka	861.5	28.2	1132.0	37.0	35.8	1.2	3277.9	107.2	6390.4	209.1
Kerala	511.5	30.6	788.8	47.2	30.4	1.8	1270.1	76.1	3192.0	191.2
Lakshadweep	0.3	10.7	0.0	-	0.1	4.3	8.3	258.9	8.9	275.8
Puducherry	21.5	34.6	68.7	110.4	0.0	-	150.5	241.9	265.6	426.8
Tamil Nadu	1033.6	28.7	1390.6	38.6	84.2	2.3	3220.2	89.3	7189.1	199.3
Telangana	476.1	27.0	639.2	36.2	19.2	1.1	1832.2	103.8	3448.2	195.4
SUB TOTAL SOUTH	3470.4	27.5	4647.9	36.8	170.2	1.3	11679.2	92.5	24326.0	192.6
All India	12395.6	20.5	15304.7	25.3	1385.2	2.3	41306.8	68.3	93329.9	154.2

* Total (all product) includes sales of all the petroleum products

Region wise highest/lowest per capita Highest Lowest

State wise highest/lowest per capita Highest Lowest

Source: Oil companies

Note:

1-Per capita sales figures are based on provisional sales figures for the period April-September 2019

2-Population figures have been taken from Census of India, 2011

3-SKO includes both PDS & non PDS sales

Table 6.4 : PDS SKO allocation

(Figures in thousand kilo litres)

State/UT	2015-16		2016-17		2017-18		2018-19		Apr-Sep 2019 (P)	
	Alloc ^a	Sales	Alloc ^a	Sales	Alloc ^a	Sales	Alloc ^a	Sales	Alloc ^a	Sales
Chandigarh	3.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delhi	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haryana	88.3	70.6	66.3	35.9	0.0	0.0	0.0	0.0	0.0	0.0
Himachal Pradesh	24.1	24.1	18.1	17.9	14.5	14.4	14.5	14.3	6.2	5.9
Jammu & Kashmir	81.2	80.1	73.1	67.9	58.5	57.6	58.5	53.9	25.5	21.9
Punjab	85.4	83.2	74.3	62.3	0.0	0.0	0.0	0.0	0.0	0.0
Rajasthan	495.2	481.5	371.4	355.8	260.0	110.5	138.0	69.3	20.0	11.6
Uttar Pradesh	1557.6	1556.7	1168.2	1167.6	911.2	901.3	887.9	873.5	366.4	348.3
Uttarakhand	35.2	35.0	31.7	31.2	25.3	13.3	25.3	10.0	6.9	0.4
SUB TOTAL NORTH	2370.0	2332.1	1803.1	1738.5	1269.5	1097.0	1124.2	1021.0	425.0	388.0
Andaman & Nicobar Islands	5.8	5.8	5.2	4.9	4.1	4.0	4.1	3.8	1.9	1.5
Bihar	796.7	794.7	710.7	705.3	495.4	490.3	332.6	329.6	147.1	133.4
Jharkhand	262.6	260.5	219.7	219.0	186.8	176.3	186.8	150.3	76.2	57.3
Odisha	389.7	385.1	292.3	283.0	248.4	244.3	248.4	247.7	112.3	111.6
West Bengal	943.3	942.1	788.9	788.3	704.0	653.6	704.0	699.3	352.0	347.6
SUB TOTAL EAST	2398.1	2388.1	2016.8	2000.4	1638.8	1568.5	1476.0	1430.7	689.5	651.3
Arunachal Pradesh	10.3	10.3	9.3	9.1	7.9	7.7	7.9	7.2	3.5	2.9
Assam	321.4	321.0	289.2	287.8	245.9	245.0	245.9	242.6	101.6	98.7
Manipur	23.4	23.3	21.1	15.2	17.9	18.2	17.9	17.7	7.4	7.0
Meghalaya	25.4	25.4	22.9	22.7	19.4	19.4	19.4	19.3	9.7	9.4
Mizoram	6.7	6.6	6.0	6.0	4.8	4.8	4.8	4.8	2.0	2.0
Nagaland	16.8	16.8	15.1	9.0	12.2	9.5	10.3	9.8	4.8	4.6
Sikkim	5.7	5.7	4.3	4.3	3.5	3.4	3.5	3.4	1.4	1.4
Tripura	38.4	38.4	34.6	34.5	29.4	29.4	29.4	29.3	13.7	13.6
SUB TOTAL NORTH EAST	448.0	447.5	402.4	388.7	340.9	337.4	339.0	334.0	144.1	139.6
Chhattisgarh	172.3	159.1	135.4	121.7	115.1	92.7	115.1	91.5	46.6	38.0
Dadra & Nagar Haveli	1.8	1.8	1.7	1.7	0.3	0.3	0.0	0.0	0.0	0.0
Daman & Diu	0.8	0.8	0.8	0.5	0.1	0.0	0.0	0.0	0.0	0.0
Goa	5.1	5.0	4.6	2.6	2.3	1.4	2.1	1.4	0.6	0.5
Gujarat	657.3	657.0	493.0	492.7	344.5	338.2	249.7	248.7	96.8	79.6
Madhya Pradesh	589.8	580.1	442.4	427.2	345.0	336.9	336.2	325.9	142.9	135.0
Maharashtra	626.3	614.0	563.6	518.0	384.7	377.8	286.7	241.9	63.3	40.0
SUB TOTAL WEST	2053.5	2018.0	1641.4	1564.3	1192.0	1147.2	989.8	909.5	350.3	293.0
Andhra Pradesh	266.7	232.0	225.7	191.5	56.4	26.6	0.0	0.0	0.0	0.0
Karnataka	509.8	484.2	287.5	260.3	156.0	126.5	156.0	112.5	54.1	40.2
Kerala	117.8	117.7	88.3	88.3	58.7	58.7	55.6	55.6	23.2	23.2
Lakshadweep	1.0	1.0	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.2
Puducherry	4.3	4.2	3.8	3.8	0.8	0.7	0.0	0.0	0.0	0.0
Tamil Nadu	341.7	341.7	307.6	307.6	204.5	204.9	193.8	193.8	80.7	80.7
Telangana	174.5	170.1	155.4	133.9	103.4	100.8	97.9	94.3	35.2	24.2
SUB TOTAL SOUTH	1415.7	1351.0	1069.3	986.4	580.6	519.0	504.1	456.9	194.0	168.4
All India	8685.4	8536.8	6933.0	6678.4	5021.8	4669.2	4433.0	4152.1	1802.8	1640.4

Alloc^a= Allocation

Source: MoP&NG

• Delhi and Chandigarh have been declared kerosene-free from Q3, 2013-14 and Q1, 2016-17 respectively. Punjab and Haryana have been declared kerosene-free from Q1, 2017-18. PDS SKO allocation for Dadra & Nagar Haveli and Daman & Diu has been reduced to "Zero" from Q2, 2017-18. PDS SKO allocation of Puducherry and Andhra Pradesh has been reduced to "Zero" wef 01.09.2017 and 01.10.2017 respectively. PDS SKO allocation for Andaman & Nicobar islands has been reduced to "Zero" effective from 01.09.2019.

• On an all India basis, the drop in allocation in the last five years (till 2018-19) has been 50.6% due to voluntary surrender of PDS SKO allocation by some of the states in addition to nil PDS SKO allocation to the above states. The allocation drop has been steepest in the Southern region (65.5%) followed by Western region (54.5%), Northern region (53.7%), Eastern region (39.7%) and North Eastern region (26.4%). Half yearly allocation also decreased by 21.6% in 2019-20 compared with the same period in the previous year.

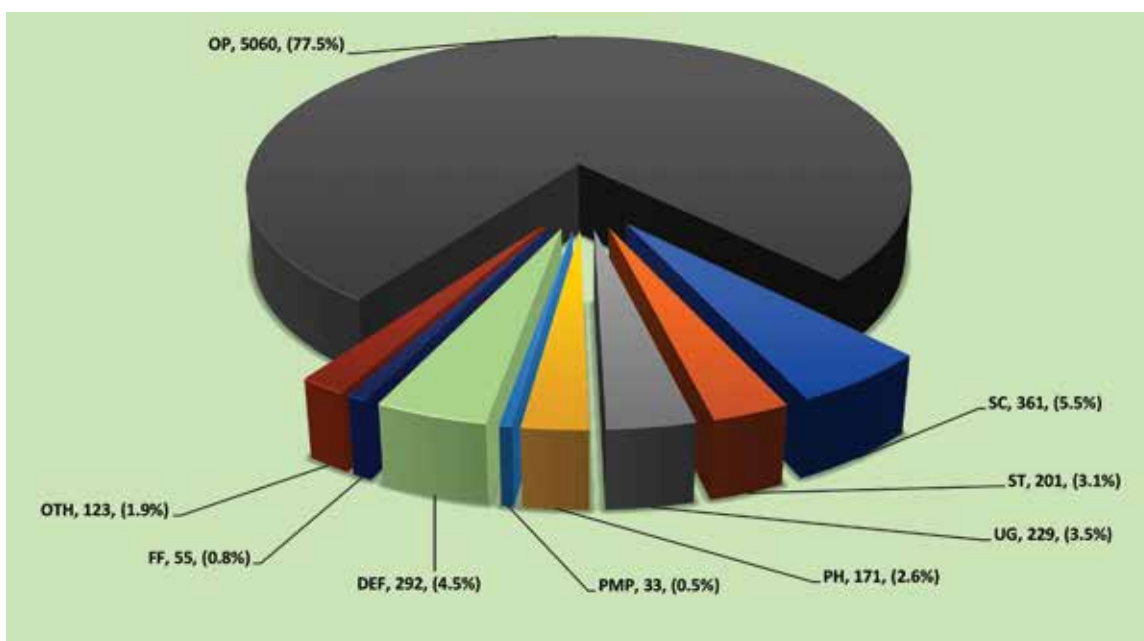
Table 6.5 : Oil industry Retail Outlets & SKO / LDO agencies

State/UT	Number of Retail Outlets (as on)					Number of SKO / LDO agencies (as on)				
	1.4.2016	1.4.2017	1.4.2018	1.4.2019	1.10.2019 (P)	1.4.2016	1.4.2017	1.4.2018	1.4.2019	1.10.2019 (P)
Chandigarh	41	41	41	42	42	12	12	12	12	12
Delhi	395	396	397	398	398	116	116	116	116	116
Haryana	2534	2726	2862	2944	2977	141	141	141	141	141
Himachal Pradesh	396	414	432	441	466	26	26	26	26	26
Jammu and Kashmir	485	494	503	507	516	47	47	47	47	47
Punjab	3316	3380	3427	3444	3466	239	237	237	237	237
Rajasthan	3736	4116	4476	4672	4772	250	250	250	250	250
Uttar Pradesh	6616	7069	7473	7778	7947	696	696	696	695	694
Uttarakhand	551	570	590	598	610	73	73	73	73	73
SUB TOTAL NORTH	18070	19206	20201	20824	21194	1600	1598	1598	1597	1596
Andaman & Nicobar Islands	10	12	14	14	14	2	2	2	2	2
Bihar	2511	2604	2695	2863	2904	372	372	372	371	371
Jharkhand	1151	1189	1207	1220	1270	87	87	87	87	87
Odisha	1560	1639	1681	1700	1748	177	177	177	177	177
West Bengal	2244	2299	2333	2354	2386	458	458	458	458	457
SUB TOTAL EAST	7476	7743	7930	8151	8322	1096	1096	1096	1095	1094
Arunachal Pradesh	71	74	85	94	102	33	33	33	33	33
Assam	788	828	871	896	920	359	359	359	359	359
Manipur	85	85	97	104	116	36	36	36	36	36
Meghalaya	190	198	203	208	214	35	35	35	35	35
Mizoram	36	37	41	43	44	19	19	19	19	19
Nagaland	69	70	73	79	86	19	19	19	19	19
Sikkim	47	50	51	51	52	12	12	12	12	12
Tripura	67	68	71	72	75	40	40	40	40	40
SUB TOTAL NORTH EAST	1353	1410	1492	1547	1609	553	553	553	553	553
Chhattisgarh	1108	1176	1249	1276	1325	108	108	108	108	108
Dadra & Nagar Haveli	31	31	31	31	31	2	2	2	2	2
Daman & Diu	31	32	32	32	32	5	5	5	5	5
Goa	114	115	116	118	118	22	22	22	22	22
Gujarat	3384	3765	4025	4166	4293	480	478	476	473	473
Madhya Pradesh	3269	3528	3711	3818	3938	284	284	284	284	284
Maharashtra	5419	5684	5970	6168	6260	767	767	767	767	766
SUB TOTAL WEST	13356	14331	15134	15609	15997	1668	1666	1664	1661	1660
Andhra Pradesh	3004	3197	3336	3424	3501	413	413	413	394	394
Karnataka	3836	4027	4215	4376	4498	324	323	318	315	315
Kerala	2009	2048	2100	2130	2143	237	237	237	237	237
Lakshadweep	0	0	0	0	0	0	0	0	0	0
Puducherry	156	160	165	164	163	8	8	8	8	8
Tamil Nadu	4702	5039	5387	5636	5699	466	466	466	466	466
Telangana	2228	2434	2625	2764	2847	183	183	183	202	202
SUB TOTAL SOUTH	15935	16905	17828	18494	18851	1631	1630	1625	1622	1622
All India	56190	59595	62585	64625	65973	6548	6543	6536	6528	6525

Source: Oil companies (Includes dealers of private oil companies)

• On an all India basis the percentage growth in the number of retail outlets from 01.04.2016 to 01.10.2019 has been 17.4%. The region wise growth is highest for the Western region (19.7%), followed by North Eastern region (18.9%), Southern region (18.3%), Northern Eastern region (17.2%) and Eastern region (11.3%).

• As many states have become kerosene free in the last five years and due to voluntary surrender of PDS kerosene quota by some others there has been a decline in the number of kerosene dealers in the country.

Category wise SKO/LDO dealers (Total 6525) on 01.10.2019

Note:

(1) SC: Scheduled Caste; ST: Scheduled Tribe; UG: Unemployed Graduate; UEG: Unemployed Engineering Graduate.; PH: Physically Handicapped; DEF: Defence category; FF: Freedom Fighter; OSP: Outstanding Sports Persons; OBC: Other Backward Classes; PMP: Para Military/Police/Govt. Personnel; Others: Includes Social Worker Category, Dealerships given on compassionate grounds/ under discretionary quota, 2/3 wheeler outlets and Company Owned and Operated outlets, Operation Vijay.
 (2) SKO/LDO dealers are only PSU OMC dealers.

Table 6.6 : Industry marketing infrastructure as on 01.10.2019 (P)

Particulars	IOCL	BPCL	HPCL	RIL	NEL ^{##}	Shell	Others	Total
POL terminal/depots (Nos.) [§]	125	78	83	18	3	-	6	313
Aviation fuel stations (Nos.) [@]	117	58	43	31	-	-	1	250
Retail Outlets (total) (Nos.) [^]	28,094	15,177	15,739	1,400	5,391	165	7	65973
out of which Rural ROs (Nos.)	8,044	2,332	3,565	127	1,897	25	-	15990
SKO/LDO agencies (Nos.)	3,886	1,001	1,638	-	-	-	-	6525
LPG distributors (total) (Nos.) (PSUs only)	12,137	6,011	5,979	-	-	-	-	24127
LPG bottling plants (Nos.) (PSUs only) [#]	90	51	49	-	-	-	3	193
LPG bottling capacity (TMTPA) (PSUs only) [§]	9,726	4,242	4,317	-	-	-	173	18458
LPG active domestic consumers (Nos. crore) (PSUs only)	12.9	7.0	7.5	-	-	-	-	27.4

[§](RIL= 5 terminals and 13 mini depots, Others=4 MRPL & 2 NRL); [@](Others=Shell-MRPL -1); [^](Others=MRPL-7); [#](Others=NRL-1, OIL-1, CPCL-1); [§](Others=NRL-30, OIL-23, CPCL-120); ^{##}Nayara Energy Limited (formerly Essar Oil Limited).

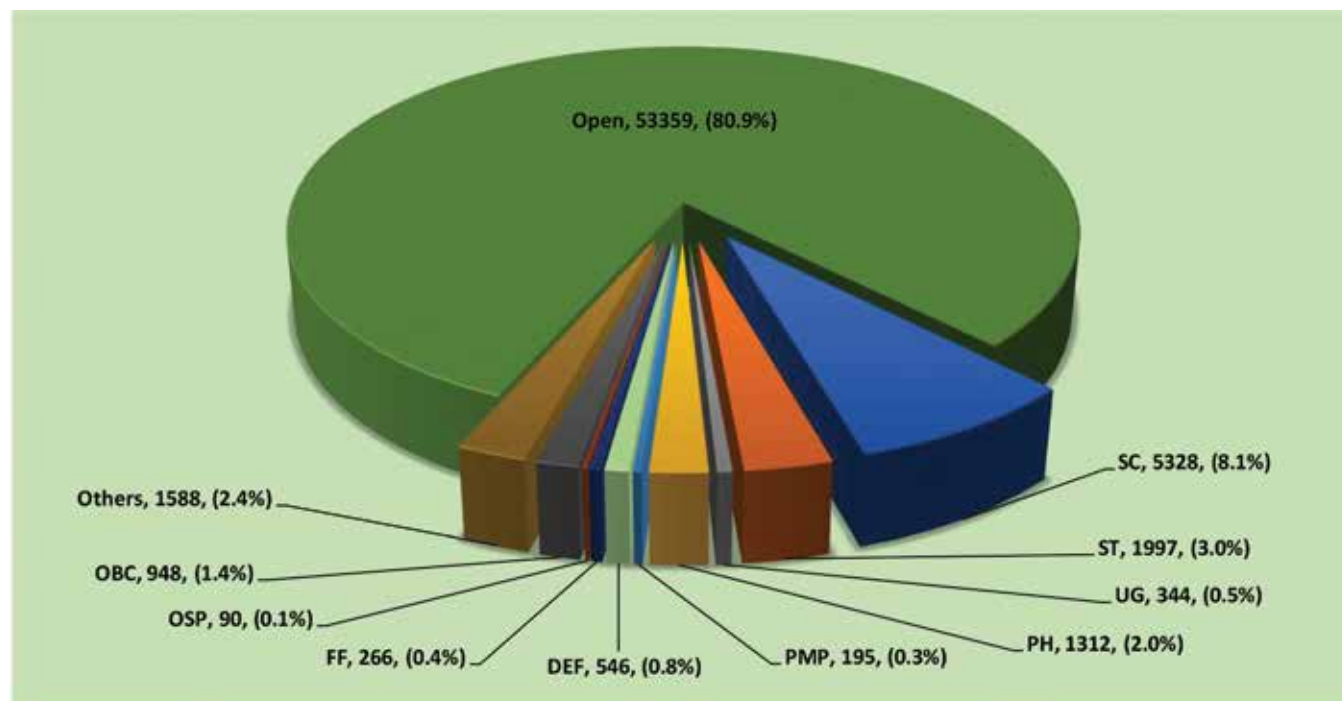
Source: Oil companies

All India number of retail outlets in PSU and private category



On 1.10.2019 the number of public sector oil company owned retail outlets was 59017 out of a total of 65973 outlets on all India basis, whereas the number of retail outlets owned by private oil companies was 6956. Participation by private sector in retail outlet business started in FY 2004 with 27 retail outlets. As on 01.10.2019 it accounted for 10.5% of the total market share.

Category wise retail outlets (Total 65973) as on 01.10.2019



Note:

- (1) SC: Scheduled Caste; ST: Scheduled Tribe; UG: Unemployed Graduate; UEG: Unemployed Engineering Graduate.; PH: Physically Handicapped; DEF: Defence Category; FF: Freedom Fighter; OSP: Outstanding Sports Persons; OBC: Other Backward Classes; PMP: Para Military/Police/Govt. Personnel; Others: Includes Social Worker Category, Dealerships given on compassionate grounds/ under discretionary quota, 2/3 wheeler outlets and Company Owned and Operated outlets, Operation Vijay.
- (2) Open category also includes private oil company retail outlets.

Table 6.7 : Break-up of consumption data (PSU and Private)

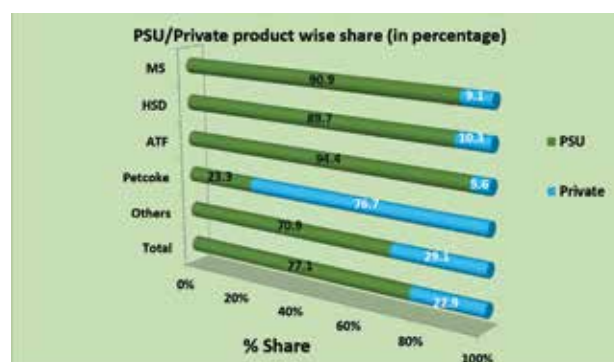
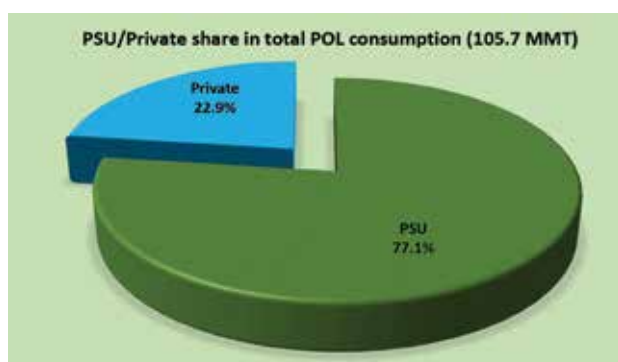
(Thousand metric tonne)

Products	2016-17			2017-18			2018-19			Apr-Sep 2018			Apr-Sep 2019 (P)		
	PSU	Private	Total	PSU	Private	Total	PSU	Private	Total	PSU	Private	Total	PSU	Private	Total
LPG	21179	429	21608	22977	364	23342	24591	316	24907	11888	168	12056	12396	151	12546
MS	22518	1247	23765	24329	1846	26174	25959	2326	28284	12924	1106	14030	13918	1387	15305
Naphtha	4905	8335	13241	5207	7681	12889	5583	8548	14131	2638	4142	6780	2596	3501	6097
ATF	6186	812	6998	6988	645	7633	7683	617	8300	3772	331	4103	3752	221	3973
SKO	5397	0	5397	3845	0	3845	3459	0	3459	1784	0	1784	1385	0	1385
HSD	71450	4577	76027	74382	6692	81073	75775	7753	83528	37297	3609	40906	37088	4256	41343
LDO	449	0	449	519	0	519	577	21	598	265	14	278	313	10	323
Lubes	1339	2131	3470	1345	2539	3884	1313	2355	3668	628	1045	1674	545	1245	1790
FO/LSHS	6009	1142	7150	5665	1056	6721	5596	968	6564	2765	516	3281	2626	460	3086
Bitumen	4721	1214	5936	4883	1202	6086	5683	1024	6708	2380	457	2837	2303	676	2979
Petcoke	3952	20012	23964	5176	20480	25657	5770	15576	21346	2754	8119	10874	2535	8364	10899
Others	2799	3795	6593	3422	4922	8343	4189	7534	11723	1932	3701	5633	2091	3917	6009
Total	150904	43693	194597	158739	47427	206166	166178	47038	213216	81029	23208	104237	81548	24187	105735

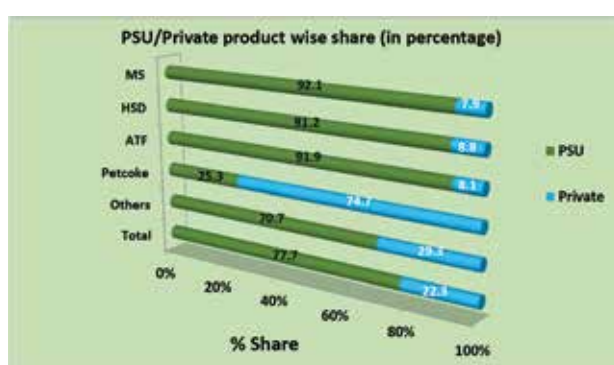
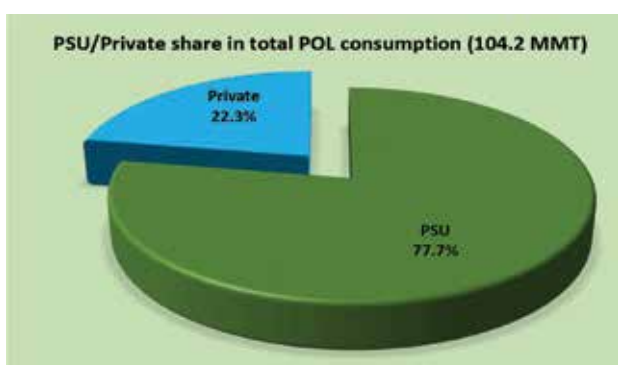
Source: Oil Companies, Directorate General of Commercial Intelligence and Statistics (DGCIS) & online SEZ data (included from FY 2017-18 onwards). (Oil company sales+Private imports+SEZ sales to DTA= Consumption)

Note: Private consumption includes direct imports as well as marketing by private oil companies.

April - September 2019 (P)



April - September 2018



Note: In the above bar charts; others include all other products except MS, HSD, ATF & Petcoke.

- The share of the private sector in total consumption increased during April-September 2019 by 0.6% as compared to the same period last year due to increase in consumption of diesel.
- In the private sector the growth was highest in bitumen (47.9%) and petrol (25.3%) during April - September 2019 as compared to the same period of the previous year.
- In respect of all other products (except MS, HSD, ATF & petcoke) including lubes, bitumen, LDO and naphtha, the private sector share has decreased by -0.2% during April - September 2019.

**Table 6.8 : Ethanol blending programme, supply year* 2018-19 (P)
(1st December 2018 to 30th September 2019)**

Sl.no.	State	Ethanol received by PSU OMCs under EBP program (Quantity Cr. Litrs)	Average percentage blending sales (EBP%)**
1	Andhra Pradesh	9.4	6.9%
2	Andman & Nicobar Islands	0.0	0.0%
3	Arunachal Pradesh	0.0	0.0%
4	Assam	0.0	0.0%
5	Bihar	5.4	6.5%
6	Chandigarh	0.6	7.4%
7	Chhattisgarh	2.5	3.6%
8	Dadar & Nagar Haveli	0.1	8.6%
9	Daman & Diu	0.1	7.6%
10	Delhi	7.0	6.7%
11	Goa	1.2	5.5%
12	Gujarat	12.1	6.6%
13	Haryana	9.5	8.2%
14	Himachal Pradesh	1.0	5.0%
15	Jammu & Kashmir	0.0	0.0%
16	Jharkand	0.0	0.0%
17	Karnataka	17.7	7.6%
18	Lakshadweep	0.0	0.0%
19	Kerala	0.2	0.2%
20	Madhya Pradesh	8.3	5.5%
21	Maharashtra	29.3	7.7%
22	Manipur	0.0	0.0%
23	Meghalaya	0.0	0.0%
24	Mizoram	0.0	0.0%
25	Nagaland	0.0	0.0%
26	Odisha	0.0	0.1%
27	Puducherry	0.0	1.2%
28	Punjab	8.3	7.8%
29	Rajasthan	3.8	2.3%
30	Sikkim	0.0	0.0%
31	Tamil Nadu	6.9	2.4%
32	Telangana	8.5	6.3%
33	Tripura	0.0	0.0%
34	Uttar Pradesh	33.4	9.1%
35	Uttarakhand	2.0	8.4%
36	West Bengal	1.9	1.9%
Grand Total		169.2	5.4%

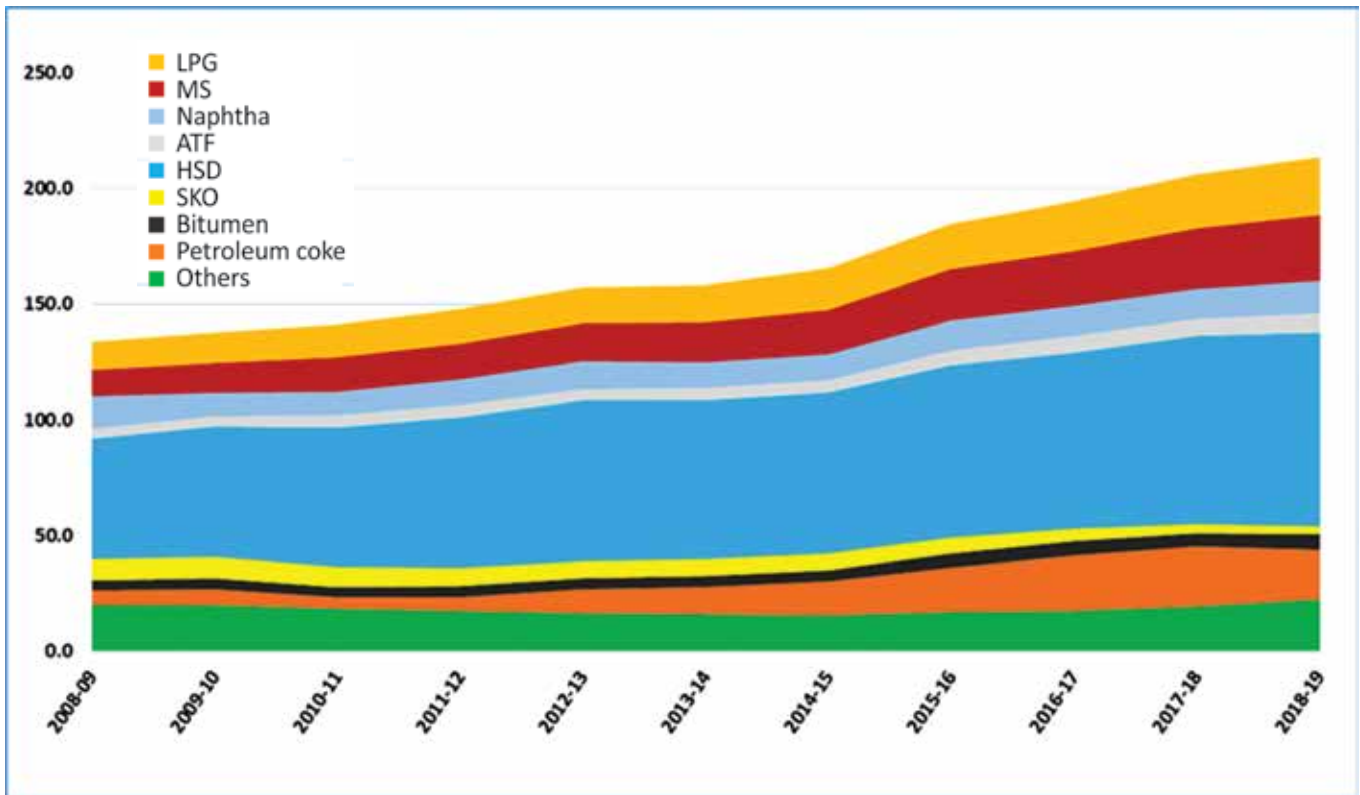
* Ethanol Supply Year : Ethanol supplies take place between 1st December of the present year to 30th November of the following year.

**EBP %age in all the States has been calculated based on the MS sale in the geographical limit of the respective State. In the States/UTs where receipt is zero but EBP %age has been calculated is due to the fact that sale of Ethanol blended MS which comes from nearby supply locations of other States contribute to the EBP %age in this State/UTs

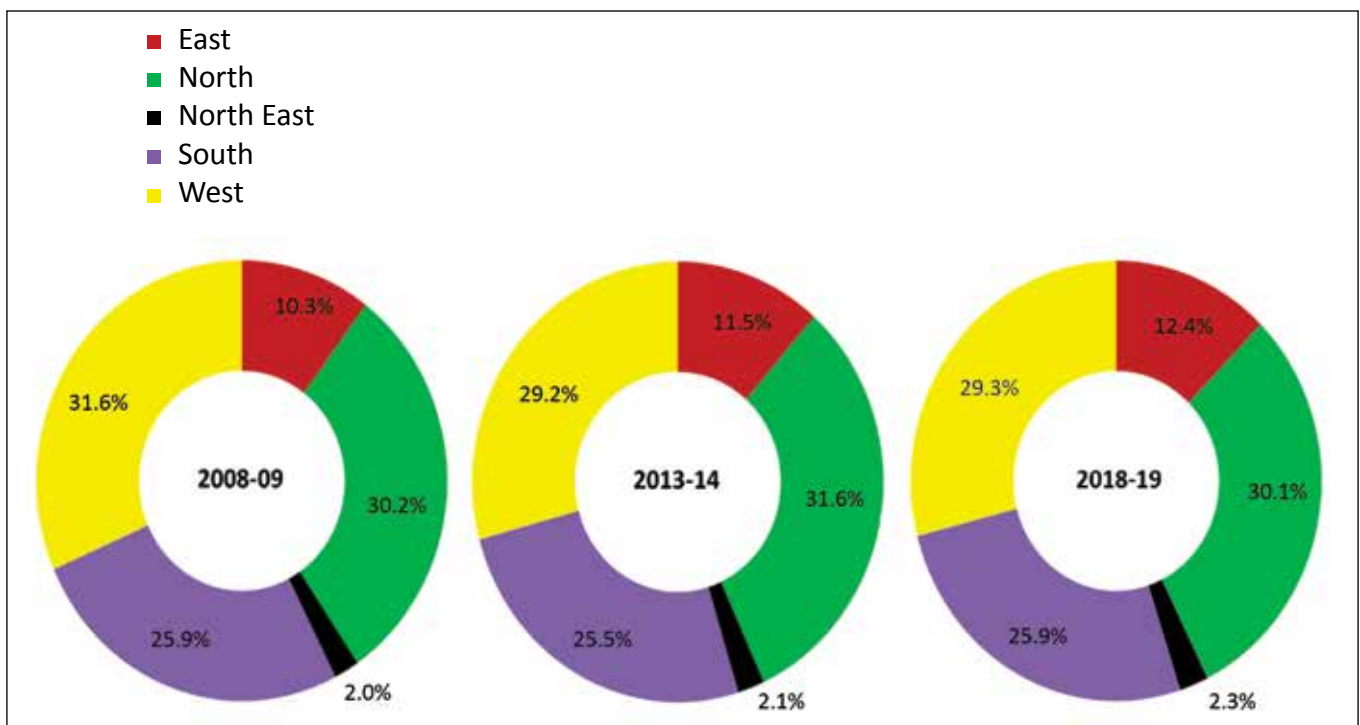
Note: With effect from 01.04.2019, EBP Programme has been extended to whole of India except UTs of Andaman & Nicobar Islands and Lakshadweep.

POL consumption by product

Million metric tonne



Distribution of total domestic POL sales in India





#GiveItUp

Feel the Joy of Giving



Chapter 7

LPG



Table 7.1 : LPG marketing at a glance

Particulars	2015-16	2016-17	2017-18	2018-19	Apr-Sep 2018	Apr-Sep 2019 (P)
(Thousand metric tonne)						
LPG production	10568	11253	12364	12786	6291	6092
LPG consumption	19623	21608	23342	24907	12056	12546
PSU sales	19134	21179	22977	24591	11888	12396
of which:						
Domestic	17182	18871	20352	21728	10514	10937
Packed Non-Domestic	1464	1776	2086	2364	1117	1235
Bulk	317	364	355	318	164	137
Auto LPG	171	167	184	180	92	87
Imports	8959	11097	11379	13235	6315	6922
of which:						
PSU imports	8470	10668	11015	12919	6147	6771
Private imports	489	429	364	316	168	151
(Lakh)						
Enrolment (domestic)	204.5	331.7	284.7	455.1	250.8	123.1
As on	1.4.2016	1.4.2017	1.4.2018	1.4.2019	1.10.2018	1.10.2019
LPG active domestic customers	1,663	1,988	2,243	2,654	2,472	2,736
of which:						
PMUY beneficiaries	-	200.3	356.0	719.0	559.5	803.3
Non-domestic customers	23.3	25.3	27.9	30.2	29.1	31.2
(Percent)						
LPG coverage (Estimated)	61.9	72.8	80.9	94.3	88.5	96.5
(Nos.)						
LPG distributors	17916	18786	20146	23737	21566	24127
of which:						
Shehri Vitrak	7492	7677	7821	7908	7882	7918
Rurban Vitrak	2852	3152	3463	3626	3537	3641
Gramin & Durgam Kshetriya Vitrak	7572	7957	8862	12203	10147	12568
Auto LPG dispensing stations (ALDS)	676	675	672	661	663	657
(Thousand metric tonne per annum)						
Bottling capacity (operating)	15172	16264	17395	18338	17564	18458
(Thousand metric tonne)						
Gross tannage	869	878	912	929	918	1008

Source: Oil companies & Directorate General of Commercial Intelligence and Statistics (DGCIS)

Note:

1. Data in respect of enrolment, customers, distributors, ALDS and operating bottling capacity pertain to PSU OMCs only.
2. Gross tannage includes LPG tannage at LPG bottling plants owned by PSU oil companies, all refineries, fractionators and LPG import terminals.
3. MOPNG vide letter no. P-20019/2/2016-LPG dated 23 June 2016 had issued unified guidelines for selection of LPG distributors. In the said guidelines, LPG distributor categories have been redefined. The historical data on LPG distributors has been rearranged in line with the new classification for comparison.

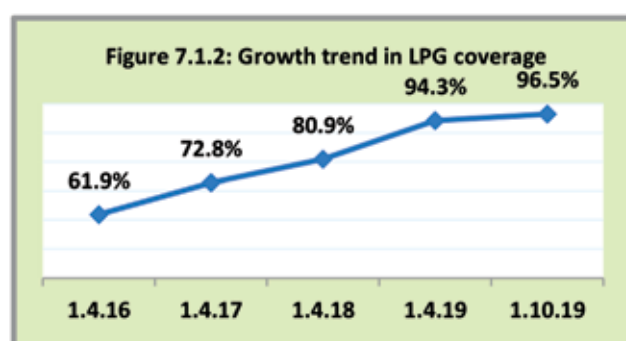
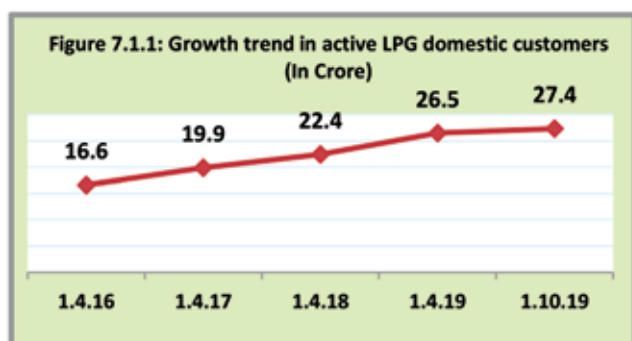


Table 7.2: LPG coverage (estimated) as on 01.10.2019 (P)

(Number in lakhs)				
State/UT	No. of households Census 2011	Estimated households as on 01.10.2019	Active connections as on 01.10.2019	LPG coverage (%)
Chandigarh	2.35	2.70	2.75	101.9
Delhi	33.41	39.48	48.53	122.9
Haryana	47.18	55.24	67.07	121.4
Himachal Pradesh	14.77	16.40	18.06	110.1
Jammu & Kashmir	20.15	24.23	31.36	129.4
Punjab	54.10	60.55	83.46	137.8
Rajasthan	125.81	148.81	160.74	108.0
Uttar Pradesh	329.24	386.33	394.79	102.2
Uttarakhand	19.97	23.19	25.76	111.1
Sub Total North	646.98	756.94	832.52	110.0
Arunachal Pradesh	2.62	3.20	2.58	80.7
Assam	63.67	73.02	70.17	96.1
Manipur	5.07	5.88	5.37	91.3
Meghalaya	5.38	6.67	3.13	46.9
Mizoram	2.21	2.66	2.92	109.9
Nagaland	4.00	3.98	2.57	64.7
Sikkim	1.28	1.42	1.40	98.4
Tripura	8.43	9.50	7.30	76.8
Sub Total North East	92.66	106.33	95.45	89.8
Andaman & Nicobar Islands	0.93	0.99	1.06	107.2
Bihar	189.41	230.70	172.39	74.7
Jharkhand	61.82	73.70	55.52	75.3
Odisha	96.61	108.22	84.94	78.5
West Bengal	200.67	224.44	216.85	96.6
Sub Total East	549.44	638.05	530.76	83.2
Chhattisgarh	56.23	67.14	51.34	76.5
Dadra & Nagar Haveli	0.73	1.08	0.88	81.2
Daman & Diu	0.60	0.88	0.61	69.3
Goa	3.23	3.45	4.86	140.8
Gujarat	121.82	142.00	103.43	72.8
Madhya Pradesh	149.68	175.76	147.97	84.2
Maharashtra	238.31	271.03	270.71	99.9
Sub Total West	570.59	661.34	579.81	87.7
Andhra Pradesh	126.04	137.94	134.29	97.4
Karnataka	131.80	149.45	157.10	105.1
Kerala	77.16	80.41	86.70	107.8
Lakshadweep	0.11	0.11	0.08	70.2
Puducherry	3.01	3.74	3.70	98.8
Tamil Nadu	184.93	209.69	208.37	99.4
Telangana	84.21	92.16	107.07	116.2
Sub Total South	607.26	673.50	697.30	103.5
All India	2466.93	2836.16	2735.84	96.5

Source: PSU OMCs (IOCL, BPCL and HPCL)

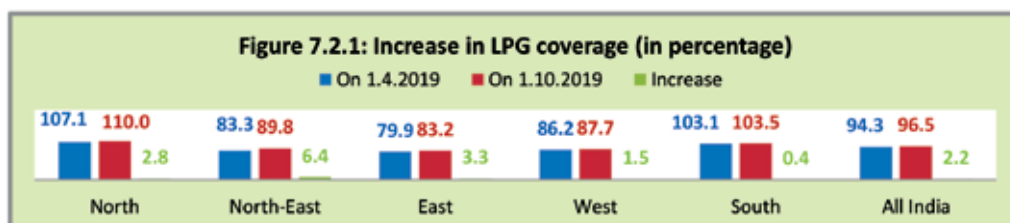


Table 7.3: BPL households covered under PMUY scheme as on 01.10.2019 (P)

(Number in lakhs)	
State/UT	Number of BPL households
Chandigarh	0.00
Delhi	0.77
Haryana	7.31
Himachal Pradesh	1.36
Jammu & Kashmir	12.23
Punjab	12.24
Rajasthan	63.91
Uttar Pradesh	147.82
Uttarakhand	4.04
Sub Total North	249.69
Arunachal Pradesh	0.44
Assam	34.92
Manipur	1.54
Meghalaya	1.50
Mizoram	0.28
Nagaland	0.55
Sikkim	0.09
Tripura	2.72
Sub Total North East	42.04
Andaman & Nicobar Islands	0.13
Bihar	85.69
Jharkhand	32.93
Odisha	47.48
West Bengal	88.74
Sub Total East	254.98
Chhattisgarh	29.97
Dadra & Nagar Haveli	0.15
Daman & Diu	0.00
Goa	0.01
Gujarat	29.06
Madhya Pradesh	71.79
Maharashtra	44.37
Sub Total West	175.35
Andhra Pradesh	3.91
Karnataka	31.50
Kerala	2.56
Lakshadweep	0.00
Puducherry	0.14
Tamil Nadu	32.43
Telangana	10.74
Sub Total South	81.27
All India	803.33

Source: PSU OMCs (IOCL, BPCL and HPCL); **Note:** "BPL households covered" refer to those households where subscription vouchers have been issued.

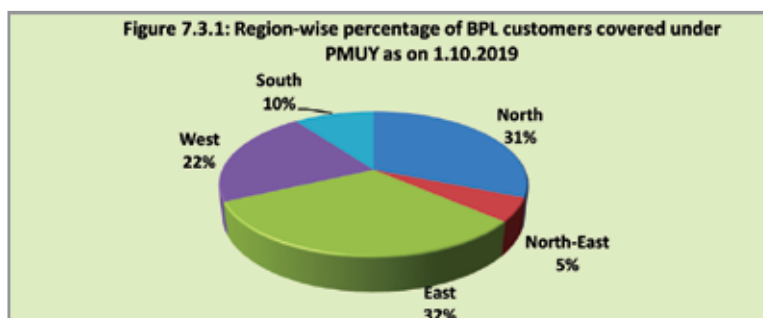


Table 7.4 : LPG domestic customers enrolment (14.2 kg/5 kg) by PSU OMCs

State/UT	Apr-Sep 2019 (P)		
	14.2 Kg	5 Kg	Total
Chandigarh	0.04	0.0002	0.04
Delhi	0.65	0.0004	0.65
Haryana	1.89	0.0519	1.94
Himachal Pradesh	1.00	0.0079	1.00
Jammu & Kashmir	1.90	0.0179	1.92
Punjab	1.18	0.0290	1.21
Rajasthan	7.68	0.6186	8.30
Uttar Pradesh	23.70	1.1630	24.87
Uttarakhand	0.93	0.0809	1.01
Sub Total North	38.96	1.9698	40.93
Arunachal Pradesh	0.15	0.0003	0.15
Assam	7.14	0.2487	7.39
Manipur	0.36	0.0017	0.36
Meghalaya	0.15	0.0112	0.16
Mizoram	0.07	0.0001	0.07
Nagaland	0.13	0.0013	0.14
Sikkim	0.07	0.0002	0.07
Tripura	0.39	0.0034	0.40
Sub Total North East	8.47	0.2669	8.74
Andaman & Nicobar Islands	0.11	0.0032	0.11
Bihar	9.92	0.2361	10.16
Jharkhand	4.65	0.0253	4.67
Odisha	5.89	0.2454	6.13
West Bengal	9.45	1.2297	10.68
Sub Total East	30.01	1.7396	31.75
Chhattisgarh	3.53	0.1104	3.64
Dadra & Nagar Haveli	0.02	0.0000	0.02
Daman & Diu	0.01	0.0000	0.01
Goa	0.08	0.0000	0.08
Gujarat	4.87	0.3149	5.18
Madhya Pradesh	8.05	1.1166	9.17
Maharashtra	8.27	0.1686	8.44
Sub Total West	24.83	1.7105	26.54
Andhra Pradesh	1.84	0.0096	1.85
Karnataka	5.18	0.3072	5.49
Kerala	1.62	0.0261	1.64
Lakshadweep	0.00	0.0000	0.00
Puducherry	0.05	0.0001	0.05
Tamil Nadu	2.82	0.2069	3.03
Telangana	3.00	0.0536	3.06
Sub Total South	14.51	0.6035	15.12
All India	116.79	6.2902	123.08

Source: PSU OMCs (IOCL, BPCL and HPCL)

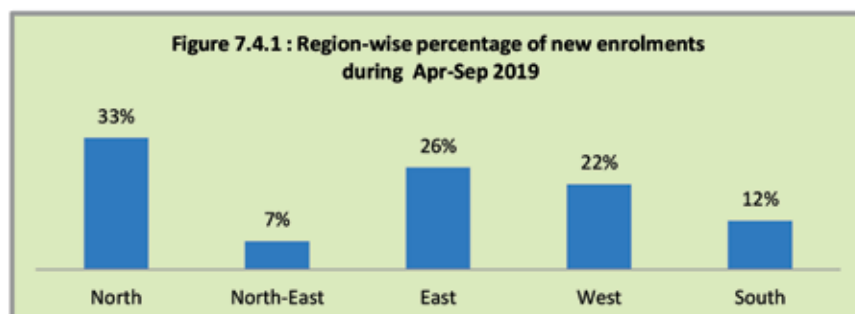
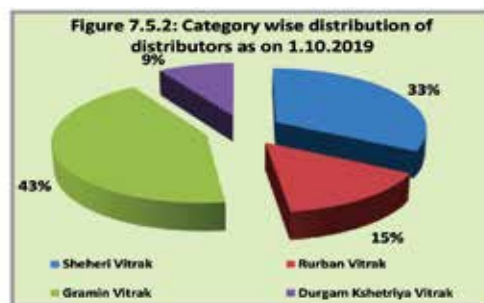
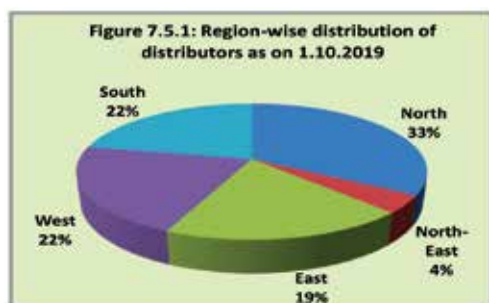


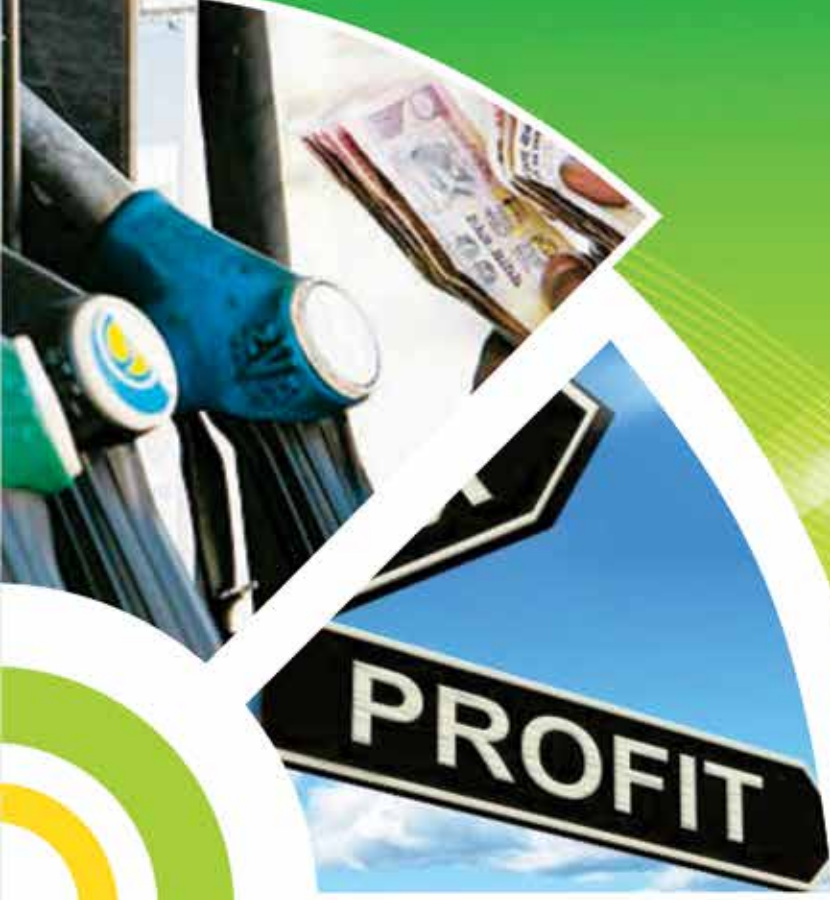
Table 7.5 : Number of LPG distributors as on 01.10.2019 (P) (New Scheme)

(Nos.)					
State/UT	Sheheri Vitrak	Rurban Vitrak	Gramin Vitrak	Durgam Kshetriya Vitrak	Total
Chandigarh	27	0	0	0	27
Delhi	322	0	0	0	322
Haryana	282	100	229	9	620
Himachal Pradesh	69	13	89	30	201
Jammu & Kashmir	130	42	74	37	283
Punjab	335	248	239	31	853
Rajasthan	439	160	605	147	1351
Uttar Pradesh	1008	701	2158	212	4079
Uttarakhand	113	107	61	30	311
Sub Total North	2725	1371	3455	496	8047
Arunachal Pradesh	5	6	28	44	83
Assam	127	104	271	37	539
Manipur	15	13	32	39	99
Meghalaya	22	9	18	13	62
Mizoram	11	6	21	20	58
Nagaland	15	11	16	38	80
Sikkim	9	1	10	2	22
Tripura	17	9	35	12	73
Sub Total North-East	221	159	431	205	1016
Andaman & Nicobar Islands	0	4	4	1	9
Bihar	240	253	1302	55	1850
Jharkhand	162	46	265	36	509
Odisha	173	95	530	127	925
West Bengal	396	158	719	53	1326
Sub Total East	971	556	2820	272	4619
Chhattisgarh	106	74	148	202	530
Dadra & Nagar Haveli	2	1	0	0	3
Daman & Diu	3	0	0	0	3
Goa	44	4	5	1	54
Gujarat	421	118	361	34	934
Madhya Pradesh	471	210	390	408	1479
Maharashtra	1008	188	775	182	2153
Sub Total West	2055	595	1679	827	5156
Andhra Pradesh	319	234	381	94	1028
Karnataka	534	139	463	75	1211
Kerala	227	124	292	20	663
Lakshadweep	1	0	0	0	1
Puducherry	15	9	3	0	27
Tamil Nadu	572	352	561	108	1593
Telangana	278	102	324	62	766
Sub Total South	1946	960	2024	359	5289
All India	7918	3641	10409	2159	24127

Source: PSU OMCs (IOCL, BPCL and HPCL)

Note: MOPNG vide letter no. P-20019/2/2016-LPG dated 23 June 2016 has issued unified guidelines for selection of LPG distributors. In the said guidelines, LPG distributor categories have been redefined as above.





Chapter 8

Prices & Taxes



Table 8.1 : FOB price of Indian basket of crude oil

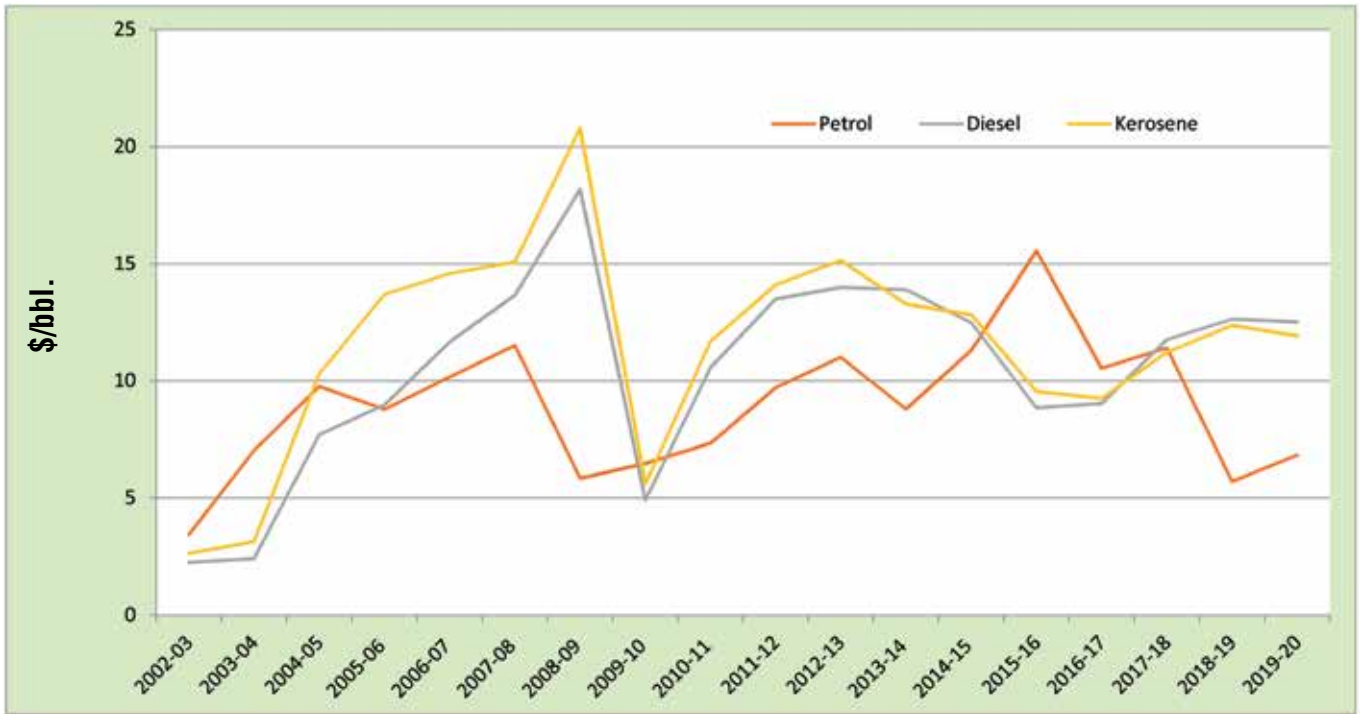
Year	Indian basket (\$/bbl)
2002-03	26.60
2003-04	27.98
2004-05	39.21
2005-06	55.72
2006-07	62.46
2007-08	79.25
2008-09	83.57
2009-10	69.76
2010-11	85.09
2011-12	111.89
2012-13	107.97
2013-14	105.52
2014-15	84.16
2015-16	46.17
2016-17	47.56
2017-18	56.43
2018-19	69.88
2019-20 (upto 31.10.2019)	63.89
2019 : Month wise	
January	59.27
February	64.53
March	66.74
April	71.00
May	70.02
June	62.39
July	63.63
August	59.35
September	61.73
October	59.70

Source: Platts

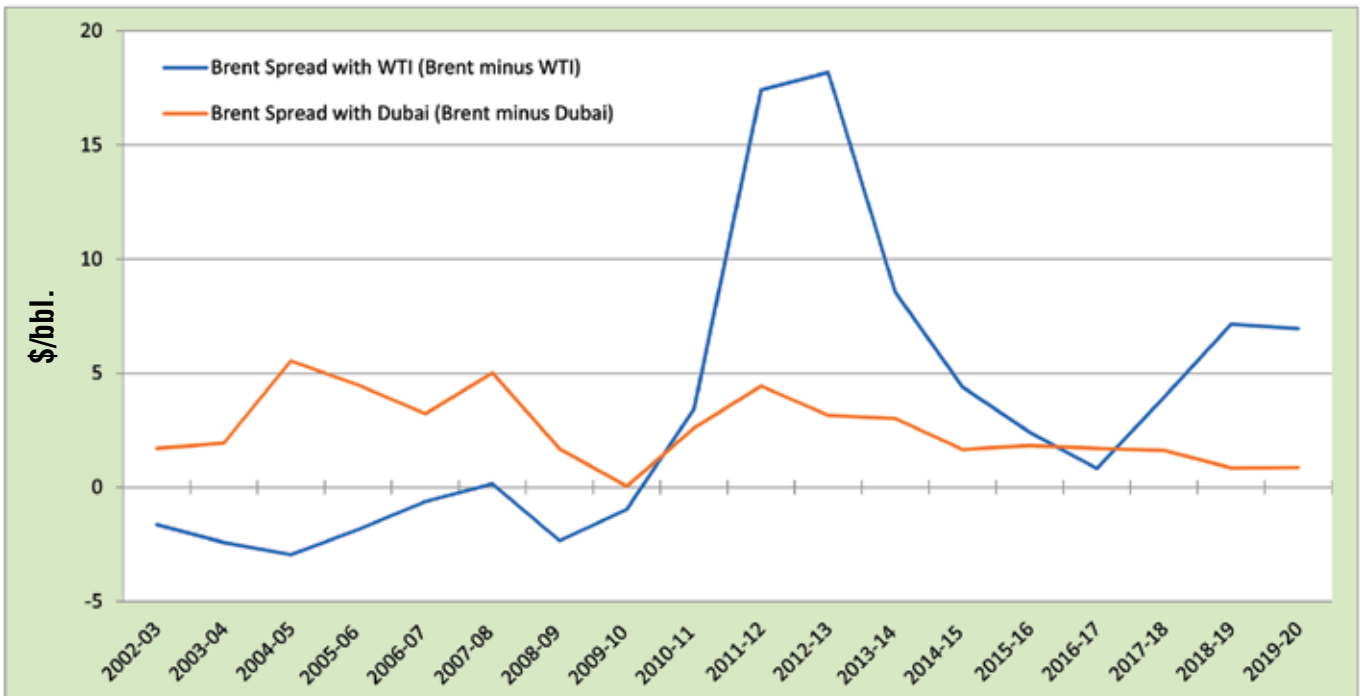
Note:

- The Indian basket of crude oil for the year 2018-19 & subsequent period is calculated based on a weightage of 74.77% for the price of sour grades of crude oil (average of Oman & Dubai) and 25.23% sweet grade of crude oil (Brent Dated). The percentages of 74.77 and 25.23 was based on the ratio of low sulphur and high sulphur crude oil processed (indigenous and imported) by all the Indian refineries (PSU and Pvt.) during the previous financial year i.e. 2017-18.

Trend in spreads of petroleum products vs Indian basket of crude oil



Trend in spreads of international benchmark crude oils



Note: 2019-20 is upto 31st October, 2019

Table 8.2 : Price build-up of PDS kerosene at Mumbai

Elements	Unit	Effective 1.11.2019
Price before taxes and dealers' commission	₹/litre	30.30
Add : Dealers' commission	₹/litre	2.59
Add : GST (incl GST on dealers' commission)	₹/litre	1.65
Retail selling price	₹/litre	34.54

Table 8.3 : Price build-up of domestic LPG at Delhi

Elements	Unit	Effective 1.11.2019
Price before taxes and distributors' commission	₹/14.2 kg cylinder	587.19
Add : Distributors' commission	₹/14.2 kg cylinder	61.84
Add : GST (including GST on Distributors' Commission)	₹/14.2 kg cylinder	32.47
Retail selling price	₹/14.2 kg cylinder	681.50

Table 8.4 : Price build-up of petrol at Delhi

Elements	Unit	Effective 1.11.2019
Price charged to dealers (excluding excise duty and VAT)	₹/litre	33.82
Add : Excise duty	₹/litre	19.98
Add : Dealers' commission (average)	₹/litre	3.57
Add : VAT (including VAT on dealers' commission)	₹/litre	15.49
Retail selling price	₹/litre	72.86

-As per IOCL.

Table 8.5 : Price build-up of diesel at Delhi

Elements	Unit	Effective 1.11.2019
Price charged to dealers (excluding excise duty and VAT)	₹/litre	37.77
Add : Excise duty	₹/litre	15.83
Add : Dealers' commission (average)	₹/litre	2.51
Add : VAT (including VAT on dealer's commission)	₹/litre	9.69
Retail selling price	₹/litre	65.80

-As per IOCL.

Table 8.6 : Break up of Central excise duty on petrol & diesel as on 1.11.2019

Particulars	₹/litre	
	Petrol	Diesel
Basic duty	2.98	4.83
Additional excise duty (Road & Infrastructure Cess)	9.00	9.00
Special additional excise duty	8.00	2.00
Total excise duty	19.98	15.83

Share of taxes in retail selling price of petroleum products
Table 8.7 : Share of taxes in retail selling price of PDS kerosene effective 1.11.2019 at Mumbai

Particulars	₹/litre	Share in RSP (%)
Price before taxes and dealers' commission	30.30	87.7%
Customs duty	-	
GST (Including GST on dealers' commission)	1.65	
Total taxes	1.65	4.8%
Dealers' commission	2.59	7.5%
Retail selling price	34.54	100.0%

Table 8.8 : Share of taxes in retail selling price of domestic LPG effective 1.11.2019 at Delhi

Particulars	₹/14.2 kg cylinder	Share in RSP (%)
Price before taxes and distributors' commission	587.19	86.1%
Customs duty	-	
GST (including GST on distributors' commission)	32.47	
Total taxes	32.47	4.8%
Distributors' commission	61.84	9.1%
Retail selling price	681.50	100.0%

Table 8.9 : Weightage of crude oil, natural gas and petroleum products in Wholesale Price Index (WPI)

Product	Weight in %
Crude Petroleum	1.95
Natural Gas	0.46
High Speed Diesel (HSD)	3.10
Petrol	1.60
Naphtha	0.87
Furnace Oil (FO)	0.67
LPG	0.64
Aviation Turbine Fuel (ATF)	0.32
Lube Oils	0.29
Bitumen	0.23
Kerosene	0.19
Petroleum Coke	0.05
Total	10.37

Source: Website of Office of the Economic Adviser, Ministry of Commerce & Industry

Dealers' / Distributors' commission on petroleum products
Table 8.10 : Dealers' commission on petrol & diesel

Effective date	Petrol	Diesel
As on 1-Apr-04	707.00	425.00
21-Jun-05	778.00	467.00
01-Aug-05	848.00	509.00
01-Mar-07	894.00	529.00
16-May-07	1024.00	600.00
23-May-08	1052.00	631.00
27-Oct-09	1125.00	673.00
07-Sep-10	1218.00	757.00
01-Jul-11	1499.00	912.00
27-Oct-12	1794.00	1089.00
21-Dec-13	₹ 1390.15/KL + 0.883% of product billable price	1186.00
23-Oct-14	₹ 1499.37/KL + 0.887% of product billable price	₹ 1116.09/KL + 0.290% of product billable price
01-Aug-15	₹ 1749.86/KL + 0.883% of product billable price	₹ 1301.70/KL + 0.286% of product billable price
16-Nov-15	₹ 1750.08/KL + 0.883% of product billable price	₹ 1301.88/KL + 0.286% of product billable price
01-Jun-16	₹ 1750.29/KL + 0.883% of product billable price	₹ 1302.06/KL + 0.286% of product billable price
05-Oct-16	₹ 1868.14/KL + 0.875% of product billable price	₹ 1389.35/KL + 0.280% of product billable price
16-Nov-16	₹ 2006.33/KL + 0.875% of product billable price	₹ 1491.72/KL + 0.280% of product billable price
01-Apr-17	₹ 2020.38/KL + 0.859% of product billable price	₹ 1502.13/KL + 0.267% of product billable price
01-Jul-17	₹ 2025.97/KL + 0.859% of product billable price	₹ 1506.81/KL + 0.267% of product billable price
01-Aug-17	₹ 2674.74/KL + 0.859% of product billable price	₹ 2031.38/KL + 0.257% of product billable price
19-Feb-19	₹ 2637.80/KL + 0.859% of product billable price	₹ 2000.60/KL + 0.257% of product billable price

Note: In addition to above, effective 1st August 2017, slab based incentive is also given to eligible dealers through credit notes.

Table 8.11 : Wholesale dealers' commission on PDS kerosene

Effective date	With form XV	Other than form XV
As on 01-Apr-04	204.00	161.00
01-Mar-07	243.00	200.00
24-May-08	255.00	212.00
07-Jul-09	263.00	220.00
07-Sep-10	275.00	232.00
28-Dec-12	438.24	377.73
21-Oct-14	536.09	475.58
05-Feb-16	714.18	649.16
28-Oct-16	787.82	723.87
05-Sep-17	1008.83	928.10
04-Oct-18	1016.37	1005.95
22-Feb-19	1341.88	1230.98

Table 8.12: Distributors' commission on domestic LPG

Effective date	(₹/cylinder)		
	14.2 KG cyl.	Additional commission for sale at market determined price (₹/14.2 KG cyl.)	5 KG cyl.
As on 01-April-04	16.71	NA	8.60
01-Mar-07	19.05	NA	9.81
04-Jun-08	20.54	NA	10.58
30-Jun-09	21.94	NA	11.30
01-Jul-11	25.83	NA	13.30
07-Oct-12	37.25	0.75	18.63
11-Dec-13	40.71	0.75	20.36
23-Oct-14	44.06	0.82	22.03
09-Dec-15	45.83	0.26	22.67
01-Jan-16	45.83	0.33	22.67
01-Feb-16	45.83	0.22	22.67
01-Mar-16	45.83	0.13	22.67
01-May-16	45.83	0.15	22.67
01-Jun-16	45.83	0.18	22.67
01-Jul-16	45.83	0.16	22.67
01-Aug-16	45.83	0.09	22.67
01-Sep-16	45.83	0.06	22.67
01-Oct-16	45.83	0.09	22.67
28-Oct-16	47.48	0.09	23.74
01-Nov-16	47.48	0.14	23.74
01-Dec-16	47.48	0.21	23.74
01-Feb-17	47.48	0.30	23.74
01-Mar-17	47.48	0.43	23.74
01-Apr-17	47.48	0.40	23.74
01-May-17	47.48	0.27	23.74
01-Jun-17	47.48	0.15	23.74
01-Jul-17	47.48	0.13	23.74
01-Aug-17	47.48	0.06	23.74
01-Sep-17	47.48	0.16	23.74
30-Sep-17	48.89	0.16	24.20
01-Oct-17	48.89	0.23	24.20
01-Nov-17	48.89	0.36	24.20
01-Jan-18	48.89	0.35	24.20
01-Feb-18	48.89	0.34	24.20
01-Mar-18	48.89	0.28	24.20
01-Apr-18	48.89	0.23	24.20
01-Jun-18	48.89	0.29	24.20
01-Jul-18	48.89	0.36	24.20
01-Aug-18	48.89	0.42	24.20
01-Sep-18	48.89	0.46	24.20
01-Oct-18	48.89	0.54	24.20
01-Nov-18	48.89	0.63	24.20
07-Nov-18	50.58	0.63	25.29
01-Dec-18	50.58	0.45	25.29
01-Jan-19	50.58	0.28	25.29
01-Feb-19	50.58	0.24	25.29
01-Mar-19	50.58	0.30	25.29
01-Apr-19	50.58	0.31	25.29
01-Jun-19	50.58	0.35	25.29
01-Jul-19	50.58	0.21	25.29
01-Aug-19	56.20	-	28.10
01-Sep-19	59.02	-	29.51
01-Oct-19	61.84	-	30.92

Source: MoP&NG circulars & OMCs

Table 8.13 : Retail selling price of major petroleum products in India & neighbouring countries

Country	Indian rupees (₹)/ litre/ 14.2 kg cyl.			
	Petrol	Diesel	Kerosene	Domestic LPG
India (Delhi)	72.86 [^]	65.80 [^]	34.24 [#]	546.60 ^{**}
Pakistan	51.20	58.38	44.53	824.87
Bangladesh	73.43	55.50	55.50	678.95
Sri Lanka	54.07	41.04	27.63	776.95
Nepal (Kathmandu)	67.84	60.23	60.23	855.87

[^] As per IOCL as on 1.11.2019, [#] at Mumbai effective 1.11.2019 for PDS Kerosene, ^{**} Effective cost after DBTL subsidy for Non-PMUY consumers effective 1.11.2019
Note: Prices for neighboring countries as on 1.11.2019.

Sources:

Websites: Pakistan- Pakistan State Oil (www.psopk.com) and Oil and Gas Regulatory Authority (www.ogra.org.pk); Bangladesh- Bangladesh Petroleum Corporation (www.bpc.gov.bd); Nepal- Nepal Oil Corporation (www.nepaloil.com.np); Sri Lanka- Petrol; Diesel & Kerosene- Ceylon Petroleum Corporation (www.ceypetco.gov.in); LPG- Litro Gas Lanka (www.litrogas.com); Exchange rate - www.oanda.com

Retail selling price & percentage of taxes in retail selling price of petrol and diesel in developed countries vis-a-vis India

Table 8.14 : Price and tax in Indian rupees (₹) / litre

Country	Petrol				Diesel			
	Retail selling price	Ex-tax price	Taxes	% of taxes	Retail selling price	Ex-tax price	Taxes	% of taxes
India	72.86	36.78	36.08	50%	65.80	39.59	26.21	40%
France	117.39	43.58	73.81	63%	112.52	45.93	66.59	59%
Germany	110.56	41.46	69.10	63%	97.99	45.46	52.53	54%
Italy	123.75	44.29	79.46	64%	115.27	46.01	69.26	60%
Spain	102.86	47.90	54.96	53%	95.17	48.92	46.25	49%
UK	112.18	42.39	69.79	62%	116.23	45.73	70.50	61%
Japan	95.40	50.79	44.61	47%	82.99	55.23	27.75	33%
Canada	64.80	43.57	21.22	33%	64.74	48.10	16.64	26%
USA	48.86	39.80	9.06	19%	56.85	46.29	10.56	19%

Table 8.15 : Price and tax in US dollars (\$) / litre

Country	Petrol				Diesel			
	Retail selling price	Ex-tax price	taxes	% of taxes	Retail selling price	Ex-tax price	Taxes	% of taxes
India	1.03	0.52	0.51	50%	0.93	0.56	0.37	40%
France	1.65	0.61	1.03	63%	1.58	0.64	0.93	59%
Germany	1.55	0.58	0.97	63%	1.37	0.64	0.74	54%
Italy	1.73	0.62	1.11	64%	1.62	0.65	0.97	60%
Spain	1.44	0.67	0.77	53%	1.33	0.69	0.65	49%
UK	1.57	0.59	0.98	62%	1.63	0.64	0.99	61%
Japan	1.34	0.71	0.63	47%	1.16	0.77	0.39	33%
Canada	0.91	0.61	0.30	33%	0.91	0.67	0.23	26%
USA	0.69	0.56	0.13	19%	0.80	0.65	0.15	19%

Note:

- Prices of France, Germany, Italy, Spain, UK, Japan, Canada & USA: IEA report for September 2019 and average exchange rate of September 2019 considered for conversion: Rs. 71.33/ USD. (VAT excluded from prices for automotive diesel for France, Italy, Spain and UK as it is refunded to industry).
- Prices in India as of 01.11.2019 as per IOCL. Average exchange rate of October 2019 considered for conversion is Rs. 71.04/\$.

Table 8.16 : Retail selling price of petroleum products at State capitals / UTs as on 1.11.2019

State/Union Territory	City	Petrol	Diesel	Domestic LPG (₹/14.2 KG Cylinder)
		(₹/litre)		Non subsidized
Andaman & Nicobar Islands	Port Blair	63.06	61.90	755.50
Andhra Pradesh	Vizag	76.16	70.13	687.00
Arunachal Pradesh	Itanagar	66.96	61.25	741.50
Assam	Guwahati	74.99	68.79	725.00
Bihar	Patna	78.75	71.32	774.00
Chandigarh	Chandigarh	68.88	62.66	695.50
Chhattisgarh	Raipur	73.61	71.34	752.00
Dadra & Nagar Haveli	Silvasa	71.19	66.87	671.00
Daman & Diu	Daman	71.11	66.80	662.50
Delhi	New Delhi	72.86	65.80	681.50
Goa	Panjim	68.96	66.58	692.50
Gujarat	Gandhinagar	70.47	69.05	704.50
Haryana	Ambala	72.39	64.72	697.50
Himachal Pradesh	Shimla	73.52	65.54	723.00
Jammu & Kashmir	Srinagar	77.54	69.36	804.00
Jharkhand	Ranchi	71.27	67.23	734.50
Karnataka	Bengaluru	75.32	68.02	680.00
Kerala	Thiruvananthapuram	76.22	70.80	677.50
Madhya Pradesh	Bhopal	80.99	72.02	689.00
Maharashtra	Mumbai	78.51	68.99	651.00
Manipur	Imphal	71.33	64.27	823.50
Meghalaya	Shillong	72.60	65.92	743.00
Mizoram	Aizawl	69.51	63.79	823.50
Nagaland	Kohima	71.65	64.28	698.50
Odisha	Bhubaneswar	71.89	70.60	708.50
Puducherry	Puducherry	72.09	68.36	691.00
Punjab	Jalandhar	72.80	64.80	708.50
Rajasthan	Jaipur	76.71	70.84	668.50
Sikkim	Gangtok	76.65	68.30	832.00
Tamil Nadu	Chennai	75.69	69.52	696.00
Telangana	Hyderabad	77.51	71.78	733.50
Tripura	Agartala	73.44	67.89	833.00
Uttar Pradesh	Lucknow	74.46	65.96	716.50
Uttarakhand	Dehradun	75.11	66.31	699.00
West Bengal	Kolkata	75.55	68.19	706.00

Source: IOCL **Highest** **Lowest**

Table 8.17 : Retail selling price of PDS kerosene at major cities as on 1.11.2019

State	City	(₹/litre)
Maharashtra	Mumbai	34.54
Tamil Nadu	Chennai	13.60
West Bengal	Kolkata	36.93

Source: OMCs

Note: The allocation of PDS kerosene in Delhi is nil presently.

Table 8.18 : Customs, excise duty and GST rates on petroleum products as on 1.11.2019

Customs duty and Excise duty (Petroleum products on which GST is not levied)

Particulars	Customs duty			Central excise duty		
	Basic customs duty	Additional customs duty (CVD)	Additional customs duty	Basic cenvat duty	Special additional excise duty	Additional excise duty (Road and Infrastructure Cess)
Crude oil	Rs.1/MT + Rs. 50/MT as NCCD	Rs.1/MT	-	Rs.1/MT+ Cess @ 20% +Rs.50/MT as NCCD	-	-
Petrol	2.50%	Rs.2.98/ltr. + Rs.8.00/ ltr SAD	Rs.9.00/ltr.	Rs.2.98/ltr	Rs.8.00/ltr	Rs.9.00/ltr.
Petrol (branded)	2.50%	Rs.4.16/ltr. + Rs.8.00/ ltr SAD	Rs.9.00/ltr.	Rs.4.16/ltr	Rs.8.00/ltr	Rs.9.00/ltr.
High speed diesel	2.50%	Rs.4.83/ltr+ Rs.2.00/ ltr	Rs.9.00/ltr.	Rs.4.83/ltr	Rs.2.00/ltr	Rs.9.00/ltr.
High speed diesel (branded)	2.50%	Rs.7.19/ltr+ Rs.2.00/ ltr	Rs.9.00/ltr.	Rs.7.19/Ltr	Rs.2.00/ltr	Rs.9.00/ltr.
Aviation Turbine Fuel (ATF) (note-2)	5.00%	11%	-	11%	-	-
Liquefied Natural Gas (LNG)	2.50%	Nil	-	Nil	-	-
Natural gas [gaseous state]	5.00%	Nil	-	Nil	-	-
Natural gas [compressed]	5.00%	14.00%	-	14.00%	-	-

Customs duty and GST rates (Petroleum products on which GST is levied)

Particulars	Customs		
	Basic Customs Duty	CVD (in lieu of IGST)	
LPG	Domestic (Note-3)	Nil	5.00%
	Non - Domestic	5.00%	18.00%
Kerosene	PDS	Nil	5.00%
	Non PDS	5.00%	18.00%
Naphtha	Fertilizer	Nil	18.00%
	Non- Fertilizer	4.00%	18.00%
Butane / Propane	Domestic	Nil	5.00%
	Non - Domestic	2.50%	18.00%
Bitumen & Asphalt		5.00%	18.00%
Furnace Oil	Fertilizer	Nil	18.00%
	Non- Fertilizer	5.00%	18.00%
Light Diesel Oil		5.00%	18.00%
Low Sulphur Heavy Stock/ HPS & other Residue	Fertilizer	Nil	18.00%
	Non- Fertilizer	5.00%	18.00%
Lube oil/greases		5.00%	18.00%
Petroleum Coke		10.00%	18.00%
Petroleum Jelly		5.00%	18.00%
Transformer Oil		5.00%	18.00%
Waxes all types		5.00%	18.00%

Note:

- In addition to the above, 10% Social Welfare Surcharge (3% in case of petrol and diesel) is also applicable on the total duties of Customs (excluding CVD in lieu of IGST).
- In case of ATF, Basic Excise Duty /Additional Customs Duty (CVD) is 2% in place of 11%, for supply to scheduled commuter airlines (SCA) from the regional connectivity scheme (RCS) airports.
- Basic Customs duty is Nil for import of domestic LPG sold to household consumers (including non domestic exempted category) by PSU OMCs. Basic Customs duty rate is 5% for other importers of domestic LPG

Table 8.19 : Actual rate of Sales Tax/VAT/GST and other taxes levied by State/UT Governments on major petroleum products as on 1.11.2019

Sl. no.	State/Union Territory	Petrol	Diesel	PDS kerosene	Domestic LPG
		Sales Tax /VAT		GST	
1	Andaman & Nicobar Islands	6%	6%		
2	Andhra Pradesh	31% VAT + Rs.2/litre VAT	22.25% VAT + Rs.2/litre VAT		
3	Arunachal Pradesh	16.20% VAT	8.60% VAT		
4	Assam	32.66% or Rs.14 per litre whichever is higher as VAT	23.66% or Rs.8.75 per litre whichever is higher as VAT		
5	Bihar	22% VAT if sale price exceeds Rs.65/litre otherwise 26% VAT (30% Surcharge on VAT as irrecoverable tax)	15% VAT if sale price exceeds Rs.64/litre otherwise 19% VAT (30% Surcharge on VAT as irrecoverable tax)		
6	Chandigarh	Rs.10/KL cess +17.45% VAT	Rs.10/KL cess + 9.02% VAT		
7	Chhattisgarh	25% VAT + Rs.2/litre VAT	25% VAT + Rs.1/litre VAT		
8	Dadra & Nagar Haveli	20% VAT	15% VAT		
9	Daman & Diu	20% VAT	15% VAT		
10	Delhi	27% VAT	Rs.250/KL air ambience charges + 16.75% VAT		
11	Goa	20% VAT + 0.5% Green cess	18% VAT + 0.5% Green cess		
12	Gujarat	17% VAT+ 4% Cess on Town Rate & VAT	17% VAT + 4 % Cess on Town Rate & VAT		
13	Haryana	22.26% or Rs.14.25/litre whichever is higher as VAT+5% additional tax on VAT	13.24% VAT or Rs.8.15/litre whichever is higher as VAT+5% additional tax on VAT		
14	Himachal Pradesh	25% or Rs14.50/Litre- whichever is higher	14% or Rs8.00/Litre- whichever is higher		
15	Jammu & Kashmir	24% MST+ Rs.5/Litre employment cess, Reduction of Rs.2.5/Litre	16% MST+ Rs.1/Litre employment cess, Reduction of Rs.0.50/Litre		
16	Jharkhand	22% on the sale price or Rs. 15.00 per litre , which ever is higher + Cess of Rs 1.00 per Ltr and this calculated amount reduced by Rs. 2.50 per litre.	22% on the sale price or Rs. 8.37 per litre, which ever is higher + Cess of Rs 1.00 per Ltr and this calculated amount reduced by Rs. 2.50 per litre.		
17	Karnataka	32% sales tax	21% sales tax		
18	Kerala	30.08% sales tax+ Rs.1/litre additional sales tax + 1% cess	22.76% sales tax+ Rs.1/litre additional sales tax + 1% cess		
19	Lakshadweep	Nil	Nil	5%	5%
20	Madhya Pradesh	33 % VAT + Rs.3.5/litre VAT+1%Cess	23% VAT+ Rs.2/litre VAT+1% Cess		
21	Maharashtra	Mumbai, Thane & Navi Mumbai	26% VAT+ Rs.7.12/Litre additional tax	24% VAT	
		(Rest of State)	25% VAT+ Rs.7.12/Litre additional tax	21% VAT	
22	Manipur	25% VAT	14.5% VAT		
23	Meghalaya	22% VAT + 2% surcharge	13.5% VAT +2% surcharge		
24	Mizoram	20% VAT	12% VAT		
25	Nagaland	20.38% VAT +5% surcharge + Rs.1.50/Litre as road maintenance cess	10% VAT+ 5% surcharge + Rs.1.50/Litre as road maintenance cess		
26	Odisha	26% VAT	26% VAT		
27	Puducherry	21.15% VAT	17.15% VAT		
28	Punjab	Rs.2050/KL (cess)+ Rs.0.10 per Litre (Urban Transport Fund) +20.11% VAT+10% additional tax on VAT	Rs.1050/KL (cess) + Rs.0.10 per Litre (Urban Transport Fund) + 11.80% VAT+10% additional tax on VAT		
29	Rajasthan	30% VAT+Rs 1500/KL road development cess	22% VAT+ Rs.1750/KL road development cess		
30	Sikkim	25% VAT+ Rs.3000/KL cess + Rs 100/KL sikkim consumer welfare fund	17.5% VAT + Rs.2500/KL cess + Rs 100/KL sikkim consumer welfare Fund		
31	Tamil Nadu	34% VAT	25% VAT		
32	Telangana	35.20% VAT	27% VAT		
33	Tripura	23% VAT+ 3% Tripura Road Development Cess	15.50% VAT+ 3% Tripura Road Development Cess		
34	Uttar Pradesh	23.78% or Rs.14.41/Litre- whichever is higher	14.05% or Rs 8.43/Litre- whichever is higher		
35	Uttarakhand	25% or Rs.17/litre whichever is higher as VAT	17.48% VAT or Rs.9.41/litre whichever is higher as VAT		
36	West Bengal	25% or Rs.13.12/litre whichever is higher as sales tax+ Rs.1000/KL cess- Rs.1000/KL exemption (20% Additional tax on VAT as irrecoverable tax)	17% or Rs.7.70/litre whichever is higher as sales tax + Rs 1000/KL cess – Rs 1290/KL sales tax rebate (20% Additional tax on VAT as irrecoverable tax)		

Note:

- As per provisional details provided by IOCL/HPCL
- For petrol & diesel, VAT/Sales Tax at applicable rates is also levied on Dealers' commission in Arunachal Pradesh, Delhi, Gujarat, Haryana, Madhya Pradesh, Punjab, Rajasthan, Chandigarh, Puducherry, Andaman & Nicobar, Meghalaya, Dadar Nagar Haveli and Daman & Diu.

Table 8.20 : Contribution of petroleum sector to exchequer

(₹ Crore)					
Particulars	2016-17	2017-18	2018-19	Apr-Sep 2018	Apr-Sep 2019 (P)
1. Contribution to Central exchequer					
A. Tax/ duties on crude oil & petroleum products					
Cess on crude oil	13082	14514	18985	8221	6563
Royalty on crude oil / natural gas	4649	4747	6066	3006	2912
Customs duty	8799	11171	16035	7205	10550
NCCD on Crude Oil	926	968	1180	565	564
Excise duty	242691	229716	214369	97499	93718
Service tax	2956	1228	340	338	0
IGST		9211	16479	9109	6442
CGST		4488	7437	3868	3497
Others	122	125	204	18	70
Sub total (A)	273225	276168	281095	129830	124315
B. Dividend to Government/ income tax etc.					
Corporate/ income tax	32511	33599	38561	14588	12903
Dividend income to Central Government	17501	14575	15525	2218	2325
Dividend distribution tax	6197	5981	6415	1774	1754
Profit petroleum on exploration of oil/ gas*	5742	5839	7694	3145	2847
Sub total (B)	61950	59994	68194	21724	19829
Total contribution to Central exchequer (A+B)	335175	336163	349290	151554	144144
2. Contribution to State exchequer					
C. Tax/ duties on crude oil & petroleum products					
Royalty on crude oil / natural gas	11942	9370	13371	6244	6324
Sales tax/ VAT	166414	185850	201265	99584	94727
SGST/UTGST		4974	7961	3976	3679
Octroi/ duties (incl. electricity duty)	3524	1663	685	320	329
Entry tax / others	7706	4745	4114	4017	130
Sub total (C)	189587	206601	227396	114140	105189
D. Dividend to Government/ direct tax etc.					
Dividend income to State Government	183	262	195	38	43
Sub total (D)	183	262	195	38	43
Total contribution to State exchequer (C+D)	189770	206863	227591	114178	105232
Total contribution of petroleum sector to exchequer (1+2)	524945	543026	576881	265732	249376

* as provided by MOP&NG. (P)- Provisional

- Based on data provided by 16 oil & gas companies. **Note:** Total may not tally due to round off.

Table 8.21 : State/UT wise collection of sales tax/ VAT by petroleum sector

(₹ Crore)						
Sl. no.	State/Union Territory	Sales tax/VAT				
		2016-17	2017-18	2018-19	Apr-Sep 2018	Apr-Sep 2019 (P)
1	Andaman & Nicobar Islands	0	51	92	44	45
2	Andhra Pradesh	8908	9693	10784	5618	5138
3	Arunachal Pradesh	62	67	49	40	5
4	Assam	2571	3108	3879	1920	1696
5	Bihar	4501	5447	6584	2469	1512
6	Chandigarh	54	54	62	30	30
7	Chhattisgarh	3200	3682	3986	1889	1725
8 & 9	Dadra and Nagar Haveli and Daman & Diu	156	42	2	1	1
10	Delhi	3589	3944	4379	2245	1835
11	Goa	650	657	694	360	370
12	Gujarat	15958	15593	16229	8318	7696
13	Haryana	7000	7647	8286	4462	3903
14	Himachal Pradesh	317	344	364	199	176
15	Jammu & Kashmir	1110	1329	1449	791	749
16	Jharkhand	2967	3224	2796	1193	1670
17	Karnataka	11103	13306	14417	7241	7664
18	Kerala	6899	7300	7995	3485	3508
19	Lakshadweep	0	0	0	0	0
20	Madhya Pradesh	9160	9380	9485	4439	4375
21	Maharashtra	23160	25256	27191	14003	13690
22	Manipur	117	162	181	95	87
23	Meghalaya	1	0	0	0	0
24	Mizoram	48	55	88	44	46
25	Nagaland	78	86	97	48	50
26	Odisha	4283	6870	5660	2551	2546
27	Puducherry	22	15	8	5	3
28	Punjab	5833	6062	6576	3497	2809
29	Rajasthan	10591	12094	12714	6677	6365
30	Sikkim	105	110	134	67	62
31	Tamil Nadu	12563	15507	18143	9237	9204
32	Telangana	7552	8776	10037	4931	4450
33	Tripura	168	205	277	94	168
34	Uttar Pradesh	15850	17420	19168	9189	8977
35	Uttarakhand	1414	1323	1595	832	722
36	West Bengal	6427	7042	7866	3570	3449
	TOTAL	166414	185850	201265	99584	94727

(P)- Provisional

-Based on data provided by 16 oil & gas companies.

Note: As the amounts have been rounded off to the nearest crore, hence some amounts are shown as zero.

Total may not tally due to round off.

Table 8.22 : State/UT wise collection of SGST/UTGST by petroleum sector

(₹ Crore)					
Sl. no.	State/Union territory/Others	2017-18	2018-19	Apr-Sep 2018	Apr-Sep 2019 (P)
States/UTs					
1	Andaman & Nicobar Islands	1	0	0	0
2	Andhra Pradesh	172	257	130	79
3	Arunachal Pradesh	1	6	0	0
4	Assam	116	559	297	203
5	Bihar	91	159	74	75
6	Chandigarh	1	1	0	0
7	Chhattisgarh	39	18	15	4
8 & 9	Dadra and Nagar Haveli and Daman & Diu	10	12	5	12
10	Delhi	114	52	28	25
11	Goa	5	3	2	5
12	Gujarat	1022	2060	1075	917
13	Haryana	379	659	336	324
14	Himachal Pradesh	15	3	2	2
15	Jammu & Kashmir	38	20	10	7
16	Jharkhand	57	13	8	9
17	Karnataka	329	356	175	101
18	Kerala	136	146	62	91
19	Lakshadweep	0	0	0	0
20	Madhya Pradesh	73	87	48	50
21	Maharashtra	797	1272	612	554
22	Manipur	2	1	1	1
23	Meghalaya	0	1	0	0
24	Mizoram	1	1	0	0
25	Nagaland	1	1	0	0
26	Odisha	52	93	40	93
27	Puducherry	2	1	0	0
28	Punjab	157	116	46	86
29	Rajasthan	88	205	119	90
30	Sikkim	3	2	1	0
31	Tamil Nadu	517	642	326	310
32	Telangana	88	19	7	10
33	Tripura	6	20	11	9
34	Uttar Pradesh	362	616	281	317
35	Uttarakhand	20	6	2	3
36	West Bengal	272	545	252	297
Others					
1	Other territory (Offshore areas of India beyond 12 Nautical Miles)	8	11	9	5
TOTAL		4974	7961	3976	3679

(P)- Provisional

Source: Based on data provided by 16 oil & gas companies

Note: As the amounts have been rounded off to the nearest crore, hence some amounts are shown as zero.

Total may not tally due to round off.

Table 8.23 : Profit After Tax (PAT) of oil companies

(₹ Crore)					
Companies	2016-17	2017-18	2018-19	Apr-Sep 2018	Apr-Sep 2019 (P)
PSU upstream/midstream companies					
ONGC	17900	19945	26716	14408	12167
OIL	1549	2668	2590	1565	1252
GAIL	3503	4618	6026	3222	2352
Total	22952	27231	35332	19196	15771
PSU downstream Oil Marketing Companies (OMCs)					
IOCL	19106	21346	16894	10078	4160
BPCL	8039	7919	7132	3512	2784
HPCL	6209	6357	6029	2811	1863
Total	33354	35622	30055	16401	8807
PSU stand alone refineries					
MRPL	3642	2224	332	281	(1075)
CPCL	1030	913	(213)	183	(446)
NRL	2101	2044	1968	943	806
Total	6773	5181	2087	1407	(715)
PSU consultancy company					
EIL	325	378	370	184	192
Total	325	378	370	184	192
Private sector companies					
RIL	31425	33612	35163	17679	18738
NEL	(2673)	532	344	*	*
Total	28752	34144	35507	17679	18738

(P)- Provisional

* details not provided.

Source: Published results/ information provided by oil companies.

Note: Financials are on standalone basis

Table 8.24 : Financial details of oil companies

2018-19									
Particulars	IOCL	BPCL	HPCL	ONGC	OIL	GAIL	MRPL	CPCL	NRL
	(₹ Crore)								
Sales turnover	600922	336384	295713	109300	13360	74808	72283	52177	16153
Profit Before Interest and Tax (PBIT)	29438	11759	10065	42446	4396	9223	1053	122	3063
Interest	4311	1319	726	2492	479	139	472	420	11
Tax	8233	3308	3310	13238	1326	3059	249	(85)	1084
Profit After Tax (PAT)	16894	7132	6029	26716	2590	6026	332	(213)	1968
Net worth	108658	36738	28175	202993	22968	39062	10727	3310	5551
Borrowings (loan fund)	86359	29099	27240	21594	11524	1000	4230	6668	38
Ratios									
PAT as % of turnover (net sales)	2.81%	2.12%	2.04%	24.44%	19.39%	8.05%	0.46%	-0.41%	12.18%
Debt (loan fund) to equity ratio	0.79	0.79	0.97	0.11	0.50	0.03	0.39	2.01	0.01
Earnings Per Share (EPS)	17.89	36.26	39.56	20.86	22.88	26.72	1.89	(14.33)	26.76

Apr-Sep 2018									
Particulars	IOCL	BPCL	HPCL	ONGC	OIL	GAIL	MRPL	CPCL	NRL
	(₹ Crore)								
Sales turnover	298368	164789	145988	55028	6955	36358	34296	27417	7211
Profit Before Interest and Tax (PBIT)	17367	5884	4587	23690	2597	4927	697	508	1460
Interest	2219	629	392	1378	238	90	228	204	8
Tax	5070	1743	1384	7903	791	1615	189	121	509
Profit After Tax (PAT)	10078	3512	2811	14408	1567	3222	281	183	943
Net worth	117564	35651	26299	203675	23565	37966	10682	3707	5771
Borrowings (loan fund)	59409	23955	17852	13995	10030	2185	4667	5219	322
Ratios									
PAT as % of turnover (net sales)	3.38%	2.13%	1.93%	26.18%	22.50%	8.86%	0.82%	0.67%	13.08%
Debt (loan fund) to equity ratio	0.51	0.67	0.68	0.07	0.43	0.06	0.44	1.41	0.06
Earnings Per Share (EPS)	10.63	17.86	18.45	11.23	13.79	14.29	1.60	12.29	12.82

Apr-Sep 2019 (P)									
Particulars	IOCL	BPCL	HPCL	ONGC	OIL	GAIL	MRPL	CPCL	NRL
	(₹ Crore)								
Sales turnover	280341	160318	140694	50839	6376	36286	26448	24908	8108
Profit Before Interest and Tax (PBIT)	9011	4098	3348	19423	2172	3567	(1264)	(433)	1271
Interest	2817	1091	492	1328	244	51	373	204	1
Tax	2034	223	993	5928	676	1164	(562)	(191)	464
Profit After Tax (PAT)	4160	2784	1863	12167	1252	2352	(1075)	(446)	806
Net worth	108400	37470	28207	211129	27522	40926	9439	2863	6089
Borrowings (loan fund)	80382	31756	29759	10397	8306	947	11803	6757	64
Ratios									
PAT as % of turnover (net sales)	1.48%	1.74%	1.32%	23.93%	19.64%	6.48%	-4.06%	-1.79%	9.94%
Debt (loan fund) to equity ratio	0.74	0.85	1.06	0.05	0.30	0.02	1.25	2.36	0.01
Earnings Per Share (EPS)	4.53	14.15	12.23	9.67	11.55	5.21	(6.13)	(29.98)	10.96

(P) - Provisional

Source: Published results/ Information provided by oil companies

Table 8.25 : Total subsidy/under-recovery on petroleum products & natural gas

Particulars	(₹ Crore)				
	2016-17	2017-18	2018-19	Apr-Sep 2018	Apr-Sep 2019 (P)
Petrol	0	0	0	0	0
Diesel	0	0	0	0	0
PDS kerosene	7595	4672	5950	3309	1349
Domestic LPG	0	0	0	0	0
Total under-recoveries (A)	7595	4672	5950	3309	1349
Direct Benefit Transfer for LPG (DBTL) subsidy /claims	12905	20880	31447	13921	11249
Project Management Expenditure (PME)*	0	25	92	92	30
Total DBTL related subsidies (B)	12905	20905	31539	14013	11279
Pradhan Mantri Ujjwala Yojana (PMUY) claims	2999	2496	5647	3062	1284
Project Management Expenditure (PME) & Information Education and Communication (IEC) expenditure under PMUY*	0	63	34	34	43
Total PMUY related subsidy (C)	2999	2559	5681	3096	1327
Direct Benefit Transfer of Kerosene (DBTK) subsidy / claims (D)	11	113	117	0	0
PDS Kerosene and Domestic LPG subsidy scheme, 2002*	3293^	0	0	0	0
Freight subsidy (For Far-Flung Areas) Scheme, 2002*	0	0	0	0	0
Natural gas subsidy for North East	498	435	557	254	260
Other subsidies (E)	3791	435	557	254	260
Total subsidy/ under-recovery on petroleum products & natural gas (A+B+C+D+E)	27301	28684	43844	20672	14214

* on payment basis.

(P) - Provisional

Note: DBTK subsidy excludes cash incentive/assistance for establishment of institutional mechanism for direct transfer of subsidy paid to States/UTs. DBTK claim for 2018-19 includes amount of Rs. 37.72 crores held back from the claim for November 2018 to March 2019 due to non- receipt of Quarterly Utilisation Certificate (QUC) from the State Government. No claim has been received for 2019-20 till date.

In 2019-20, Natural Gas Subsidy for North East includes claims for the period April- August 2019

Table 8.26 : Quantity and value of Indian crude oil imports

Year	Quantity (MMT)	\$ Million	₹ Crore
2018-19	226.5	111,915	7,83,183
2019-20 (Estimated)	233.0	111,348	7,84,418

Note: 2019-20 imports are estimated based on April 2019- September 2019 at actuals and for October 2019- March 2020 at average price of Indian basket crude oil \$66/bbl and average exchange rate for Rs.71/\$.

Impact of variation in crude oil price & exchange rate on value of crude oil imports for October 2019- March 2020 :

If crude price changes by one \$/bbl

- Crude oil import bill changes by Rs. 6,328 crores

If exchange rate of Rs./\$ changes by Rs. 1/\$

- Crude oil import bill changes by Rs. 5,883 crores



Chapter 9

Miscellaneous



Table 9.1 : Average international Calorific Values of different fuels

A.	Oil products	M Cals/tonne or K Cal/Kg
	NGL	12135
	Kerosene	10638
	Motor Gasoline	11135
	Fuel Oil	10440
B.	Natural gas production (average) - India	8000-9480 K cal/SCM
C.	India	M Cals/tonne or K Cal/Kg
	Charcoal	6900
	Hard coal	5000
	Firewood	4750
	Lignite-Brown coal	2310

Source : Indian Petroleum & Natural Gas Statistics, MOP&NG

Conversion factor : 1 K Cal = 4.19 K Joules

Conversion factors

Table 9.2 : Weight to volume conversion

Product	Weight (MT)	Volume (KL)	BBL	To convert volume at 29.5° C to volume at 15°C multiply by
Petrol	1	1.4110	8.88	0.9830
Diesel	1	1.2100	7.61	0.9879
Kerosene	1	1.2850	8.08	0.9864
ATF	1	1.2880	8.10	0.9862
Light Diesel Oil	1	1.1720	7.37	0.9877
Furnace Oil	1	1.0424	6.74	0.9899
Crude Oil	1	1.1700	7.33	

Note: Petrol and Diesel are as per BS-IV norms

Table 9.3 : Volume conversion

1 US Bbl.	159 Litres
1 US Gallon	3.78 Litres
1 Kilo Litre (KL)	6.29 Bbl.
1 US Bbl.	42 Gallons
1 MBD (million barrels per day)	50 MMTPA

Table 9.4 : Contents of LPG & Natural Gas

Natural Gas	Contains 60-95 % Methane
LPG	Contains Propane (40%) & Butane (60%)

Table 9.5 : Natural gas conversions

1 SCM (Standard Cubic Meter)	= 1 cubic metre @ 1 atmosphere pressure and 15.56 °C	
1 Cubic Metre	= 35.31 Cubic feet	
1 BCM(Billion Cubic Metre) / Year of gas	= 2.74 MMSCMD	365 days a year
1 TCF (Trillion Cubic Feet) of Gas Reserve	= 3.88 MMSCMD	100% recoverable for 20 years @ 365 days / annum)
1 MMTPA of LNG	= 3.60 MMSCMD	Molecular weight of 18 @ 365 days/annum)
1 MT of LNG	= 1314 SCM	Molecular weight of 18
Gross Calorific Value (GCV)	= 10000 Kcal/ SCM	
Net Calorific Value (NCV)	= 90% of GCV	
1 Million BTU (MMBTU)	= 25.2 SCM	@10000 Kcal/SCM; 1 MMBTU= 252,000 Kcal)
Specific Gravity of Gas	= 0.62	Molecular weight of dry air=28.964 gm/mole)
Density of Gas	= 0.76 Kg/SCM	Molecular weight of gas 18 gm/mol
Gas required for 1 MW of Power generation	= 4541 SCM per day	Station Heat Rate (SHR);~1720 Kcal/Kwh-NCV (50% Thermal Efficiency); Natural Gas GCV-@10000Kcal/SCM
Power Generation from 1 MMSCMD Gas	= 220 MWH	Station Heat Rate (SHR);~1720 Kcal/Kwh-NCV (50% Thermal Efficiency); Natural Gas GCV-@10000Kcal/SCM

Source : GAIL (India) Ltd./ PPAC

Table 9.6 : Major end use of petroleum products

Product	Major end use
LPG	Domestic and auto fuel. Also for industrial application where technically essential. Now permittees as auto fuel.
Naphtha	Feedstock/fuel for fertiliser units, feedstock for petrochemical sector and fuel for power plants.
MS	Fuel for passenger cars, taxies, two & three wheelers.
ATF	Fuel for aircrafts.
SKO	Fuel for cooking & lighting.
HSD	Fuel for transport sector (railways/road), agriculture (tractors, pumpsets, threshers, etc.) and captive power generation.
LDO	Fuel for agricultural pumpsets, small industrial units, start up fuel for power generation.
FO/LSHS	Secondary fuel for thermal power plants, fuel/feedstock for fertiliser plants, industrial units.
Bitumen	Surfacing of roads.
Lubes	Lubrication for automotive and industrial applications.
Petrloleum coke	Fuel grade petcoke is used as fuel for cement kilns and electric power plants. Calcined petcoke is used to manufacture energy as well as in the aluminium, graphite electrode, steel, titanium dioxide and other carbon consuming industries.
Other products (Benzene, Toluene, MTO, LABFS, CBFS, Paraffin wax etc.)	Feedstock for value added products.

Information about key officers of MoP&NG

Department	Name (S/Shri)	Designation	Telephone No.	Fax No.
Secretary	Dr. M.M. Kutty	Secretary	23383501/ 23383562	23070723
	Narender S Negi / Manish Makhija	PPS / PPS to Secretary	23383501/23383562	
Finance	Rajiv Bansal	Additional Secretary & Financial Adviser	23381704	23074226
	A. K. Passi	Sr. PPS to Additional Secretary & Financial Adviser	23381704	
	Sukh Ram Meena	Deputy Director General (IFD)	23389459	23383585
	Ms Perin Devi	Director (IFD)	23386965	23386965
Economic & Statistics		Sr. Adviser	23385823	23383752
		PPS to Sr. Adviser	23385823	
	Ms Indrani Kaushal	Economic Adviser	23383753	23383752
	Ms Harmeet Kaur	PPS to Economic Adviser	23383753	
Refinery	Sunil Kumar	Joint Secretary (Refineries)	23386935	23382673
	Ms K Madhavi	PPS to Joint Secretary (R)	23386935	
	Rohit Mathur	Director (Supply, CC & Flagship)	23380025	23383100
	Sushil T Williams	Deputy Secretary (Ref)	23387467	23383100
Exploration	Amar Nath	Joint Secretary (E)	23381832	23070562
	Anand Mohan Jha	PPS to Joint Secretary (E)	23381832	
	Sanjay Kumar Jain	Director (Exploration II & Vig)	23386526	23303100
	Rajender Kumar Kureel	Director (Exploration I)	23381029	23303100
Marketing and Administration		Joint Secretary (Mktg & Admin)	23382418	23384401
	Sampooran Singh	PPS to Joint Secretary (M)	23382418	
	Gaurav Kumar	Director (General & Parliament)	23383678	23383100
	Mrityunjay Jha	Deputy Secretary (Adm & LPG)	23386407	23383100
Gas Projects	Ashish Chatterjee	Joint Secretary (GP)	23073165	23398804
	S K Misra	PS to Joint Secretary (GP)	23073165	
	Vijay Sharma	Director (GP)	23073069	23383100
	J C Babu	Deputy Secretary (CA)	23388764	
	S S Mahar	Deputy Secretary (GP)	23387936	23383100
International Cooperation	B N Reddy	Joint Secretary (IC)	23382583	23073475
	Mahender Kumar	PPS to Joint Secretary (IC)	23382583	
	Ms Esha Srivastava	Director (IC)	23383508	23383100

Information about key officers of PPAC

Department	Name (S/Shri)	Designation	Telephone No.	Fax No.
Director General's office	Praveen M. Khanooja	Director General	24361616 / 24361081	24361253
Finance	Vikram Gulati	Director (Finance)	24360356 / 27306121	24361253
Demand & Economic Studies	Ms Anju Jai Misra	Addl. Director (D & ES)	24362486 / 24306181	24361253
Supply	Ms B M Sujatha	Addl. Director I/c (S)	24360352 / 24306141	24361253
Administration	Sunil Kumar	Addl. Director (HR & C)	24361717 / 24306111	24361253
IT	Ms Maninder Kaur Narula	Addl. Director I/c (IT)	24306151	24361253
Marketing	Niren Bhattacharya	Addl. Director (Mktg.)	24360489 / 24306171	24361253
Gas	Jitender Kumar Sharma	Addl. Director (Gas)	24306143	24361253

EPABX NOs. 24306191 / 24306192, Reception - 24361314



Petroleum Planning & Analysis Cell

(Ministry of Petroleum & Natural Gas, Government of India)
SCOPE Complex, 2nd Floor Core-8, Lodhi Road, New Delhi-110003
Tel.: 011-24306191/92, 011-24361314, Fax : 011-24361253 www.ppac.gov.in

